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Volume 34, 1913

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VOL. 34.—No. 1

PHILADELPHIA, PA., SATURDAY, JULY 5,

50 CENTS A YEAR.

Buying Milk on Basis of Purity By The Country Parson

Milk is easily our most important and our most seductive food product. I say "most seductive" advisedly, for this innocent white fluid usually has a bacteria content in close proportion to the population of the city which drinks it. In Baltimore it contains about 600,000 bacteria per cubic centimetre. In New York, they say, it contains millions. I recently attended a meeting where the first speaker spoke on eugenics, the second on infant mortality and the third on milk. The relation of the three subjects, from a city standpoint, was obvious.

Nevertheless, such quantities of milk are regularly consumed that its production for the farmer of the Atlantic seaboard is what the production of corn and beef is for his brother of the Middle West, his largest and most profitable crop. The application of laboratory tests to determine its purity is therefore a proposition which is bound to vitally

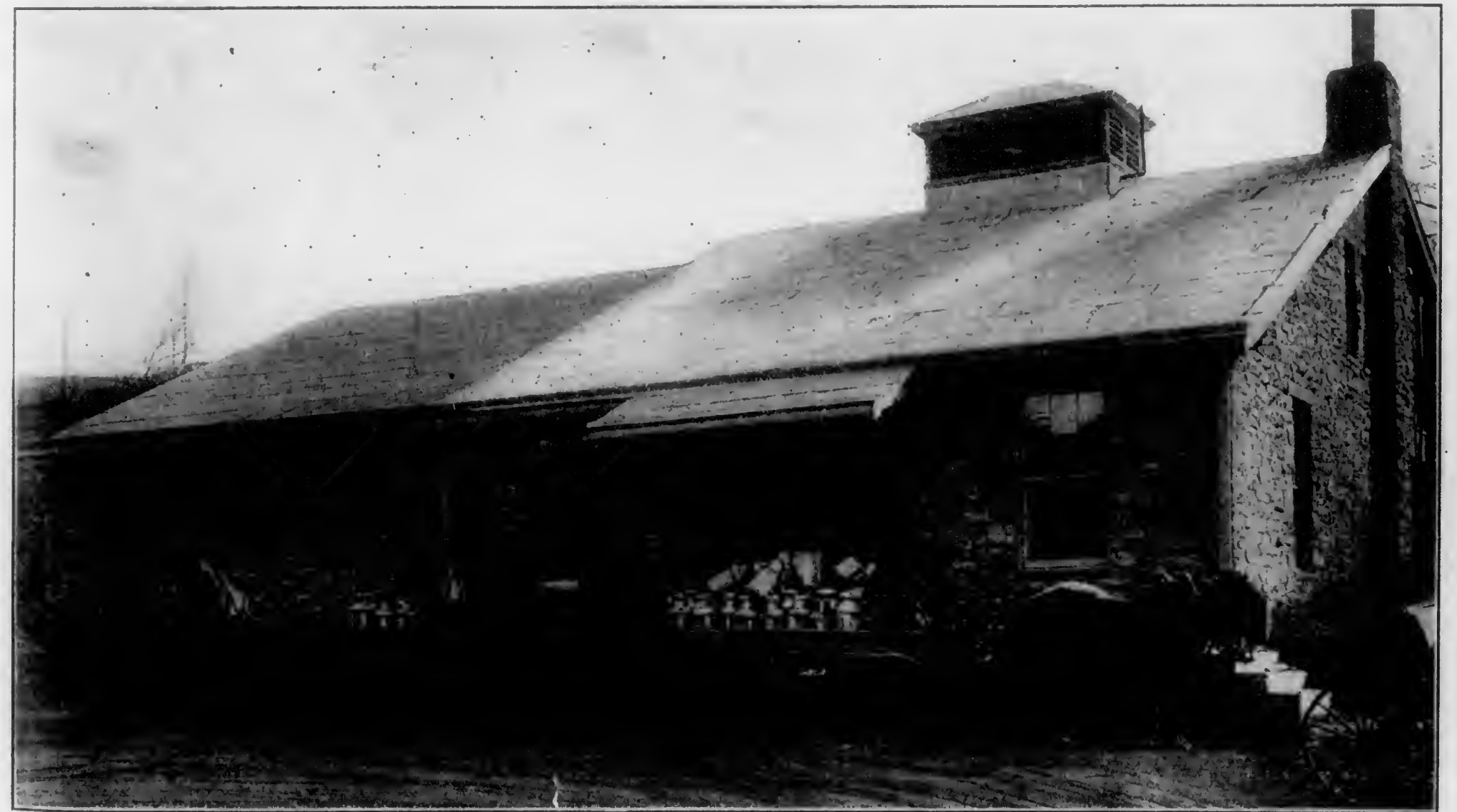
in agricultural education and community organization. But that is another story.

The country surrounding Sparks station is magnificently adapted for dairy purposes. Located just where the steeper foothills of the Alleghenies begin to broaden out into gently rolling upland and fertile valleys, its rich soil produces splendid crops of grass and corn, the two great feed crops of the American dairy farmer. Its pasture fields seldom lack an abundant supply of pure spring or flowing water, and their enclosing masses of woods and scattered shade trees make a lovely landscape, which often suggests the famous park scenery of England. The farm buildings, follow the models of near-by Pennsylvania rather than the colonial styles of our southern counties.

This is of interest because the bank barn with its imperfect lighting and poor ventilation is not,

Another difficulty with which the Sparks farmers have to contend is the help problem. The proximity of large cities and the constant demands for labor by large construction companies makes the keeping of well-trained and reliable farm help a difficult proposition. The people who settled Iowa and Wisconsin brought old country dairy traditions with them from their homes in Norway, Denmark, Germany and Switzerland. The Negro has no such traditions. He may be trained to carefully perform his duties, but he needs constant and unremitting supervision. He not only lacks all initiative and ambition, but he also lacks that careful attention to detail, that affectionate attachment to the animals placed in his charge, which is so characteristic of all people who have made a real success of dairying.

Some years ago the Gardiner Dairy Company, seeking a reliable and permanent source of supply



THE MILK RECEIVING STATION AT THE SPARKS AGRICULTURAL HIGH SCHOOL, BALTIMORE CO., MARYLAND.

affect the man who is trying to produce pure and wholesome milk for four or five cents per quart without destroying the fertility of his farm or going into bankruptcy. For this reason a recent experiment or demonstration, conducted at Sparks, Md., by the Gardiner Dairy Company, of Baltimore City, thru Dr. Charles E. North, of New York, is of interest as enabling our eastern farmers to form some opinion on the effect of such bacterial tests upon the milk producer.

Sparks station has recently come into public notice thru the splendid activities of the Baltimore County Agricultural High School, which is located at that place. Under direction of Prof. H. B. Crocheron, this school has done a remarkable work

at least in Maryland, well adapted for obtaining the best results in pure milk production. This has led to the designing by the Maryland Experiment Station of a type of barn which, while permitting the free circulation of air and passage of light from all sides, affords perfect shelter to the cows housed in it without ever being tied or confined in stanchions, except at milking, for which a room has been annexed to the main building. It has been proved by actual experiment that the cows housed in this barn suffer less from cold, keep in better general health and produce more milk, even in the most severe winter weather, than the cows housed in an adjoining barn of the ordinary concrete wall and concrete floor type. But this is also another story.

for high-grade table and coffee cream, leased a creamery which had been built at Sparks station, installed the necessary equipment and arranged to purchase all milk delivered to them, for which they paid about 16 cents per gallon, and returned all skim-milk to the farmers at a per gallon charge of one cent. Despite all advantages of favorable location and climate, it was found that the product of the Sparks creamery was so unsatisfactory that the dairy company, without jeopardizing its reputation, could not offer it for sale to its customers as table cream. The fault was not in the creamery, for both equipment and management were above fair criticism. The fault was in the lack of scientific knowl-

(Continued on page 6.)

THE NEW JERSEY AGRICULTURAL STATION

The increased activities in agricultural work which have been so manifest during the last few years have made a proportionate demand upon the various state experiment stations and agricultural colleges. Farmers now want new facts rather than repetition of the same old truths that have been preached for so many years. The time has come when the average farmer knows the modern methods of farm management to a greater or lesser degree and is ready for the next step. The agricultural colleges are every year turning out trained men who become the nucleus for better farming in the communities in which they settle. This has had a tremendous effect upon the business of farming as a whole and has very largely raised the average farmer to a point where he is more familiar with scientific principles and is ready for new thoughts and the best means of applying them.

The experiment stations are endeavoring to meet this demand for greater farming efficiency and all are succeeding, some to a greater and others to a lesser degree. In following up the work of some of the stations and agricultural colleges which have a bearing on the work of the farmer in Pennsylvania, it is noticeable, first of all, that each station is doing work which must have a very great influence upon the farmers who care to avail themselves of the advantages that are being offered. But, on the other hand, it is also apparent that certain stations, like individuals, are more thorough in their work, more exhaustive in their research and more painstaking in their efforts to put results before farmers in a practical way. To this last class belongs the Experiment Station and Agricultural College of New Jersey, at New Brunswick.

This station has always been favorably known in connection with the splendid work on fertilizers done there by Dr. E. B. Voorhees. It was greatly feared that the good work of the station would be materially lessened by the loss of Dr. Voorhees. However, the administration affairs are now in the hands of Dr. Jacob G. Lipman and Prof. Alva Agee, whom Pennsylvania farmers remember with so much appreciation for his good and efficient work.

One need only visit New Brunswick to know that the administration of the station has not suffered by reason of any change in personnel. Such a visit is especially interesting to the man interested in alfalfa. He will find a most interesting rotation of 30 acres of alfalfa, 30 acres of corn and 10 of oats and peas sown together. The alfalfa is inoculated with about 200 pounds of soil per acre, and follows the oat and pea crop. This year, on an alfalfa field yielding its first cutting, 45 tons of high quality hay was taken from 27 acres and was under cover by the end of the first week in June.

The dairy is modernly equipped and is being gradually bred to a high state of efficiency, and under the management of Professor Cook, is beginning to show striking results.

The fruit grower will find an endless amount of interesting things. Professor Blake is running this department along strictly practical lines and has developed some interesting facts. Farmers are continually seeking advice as to the practicability of dwarf trees. Professor Blake is conducting experiments with dwarf trees of many varieties, and certain facts have already been observed. The yields, under favorable conditions, are not as large as with standard trees. They require clean culture and a limited amount of nitrogen since too much growth greatly

retards fruiting. The European pruning method can not be followed successfully in this country, as Professor Blake has clearly demonstrated.

One of the most practical experiments in soil fertility is to be found at New Brunswick. This consists of a series of cylinders, four feet deep, two feet in diameter and open at both ends. These are sunk into the ground level with the surface. Each contains a different soil type, a different fertilizer treatment, and each is growing a crop. These trials have not progressed far enough for definite conclusions. However a bulletin will soon be published giving this data.

The fertilizer test on standard apple trees is also of great value. The plot having the potash and phosphoric acid treatment shows strikingly better results than the check plot, and the nitrogen plot at first showed better color only, but after a few years treatment is giving increased yields.

A method of grape pruning unfamiliar to most growers is being tested. This system is known as the Munson, and in many ways is superior to the Kniffin. It consists of two overhead wires, one slightly higher than the

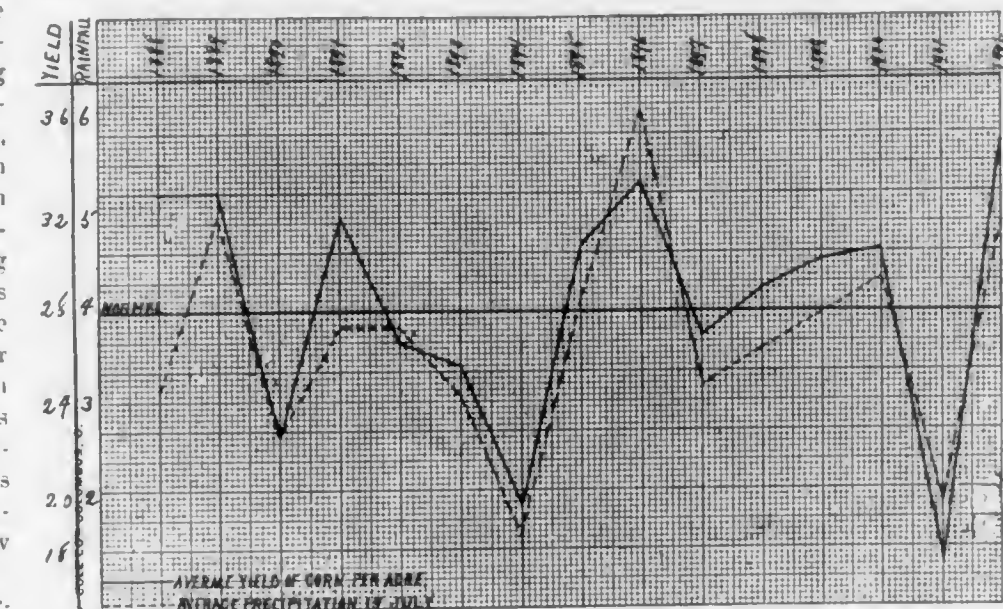


CHART SHOWING HOW CLOSELY CORN YIELD FOLLOWS AMOUNT OF RAINFALL.

other. These support the foliage and allow the fruit to hang exposed between the wires, thus simplifying the spraying and harvesting operations. The renewal principle of the canes is almost identical with the Kniffin system.

The college and station are greatly in need of a new horticultural building. In a state which has the unlimited natural horticultural possibilities which New Jersey has, there should be such a building second to none in the country. It is very much to be hoped that the farmers of New Jersey and all others interested in the excellent work being done at New Brunswick will use their influence to make this building financially possible. When this becomes a reality, the station and college, under the present efficient administration, will become a tremendous force in advancing agricultural interests in a region where possibilities are unlimited. —L. Wayne Arny.

THE RELATION OF WATER TO CORN

The above chart indicates that if we know the precipitation for July we can very closely estimate the corn crop for that year. There are a few points where the curves do not agree, but these can be explained. For the year 1885 we are not sure that the statistics were collected with the same care as has been exercised in later years. In 1891, when the yield was considerably above the normal, there was a heavy June precipitation, while the July precipitation fell slightly below the normal. If we combine the precipitation for June and July, the precipita-

tion curve will follow the yield curve even more closely than when the July rainfall alone is plotted.

Our yield of corn is often limited by the amount and distribution of the rainfall during the growing season, and throughout the United States there is scarcely an area that, at some time in the year, does not suffer for the want of sufficient moisture. This makes it necessary to employ methods of cultivation which will tend to conserve the soil moisture already present in the soil and hold it over for the purpose of carrying the corn over the dry periods.

BRINGING UP A RUN-DOWN FARM

One of the most interesting and instructive demonstrations found by the visiting farmers on their recent excursion trip to State College was the growing crops on what is known as the College as the Mitchell Farm. It was of interest, first, because it was a practical demonstration of what may be accomplished in a comparatively short time in increasing the production on a run-down farm. Second, the results were so successful, as indicated by the present condition of the crops growing.

An interesting comparison was offered on another portion of the farm inspected, known as the Thompson Farm. This farm is being worked in a six-year rotation, consisting of corn two years, followed by oats one year, that followed by one-half the field in wheat and the other half in alfalfa. The alfalfa is allowed to occupy the ground for three years, the wheat one year, followed by clover and timothy two years, after which the entire field goes back to corn. This farm is fertilized with either barnyard manure or commercial fertilizer applied to the corn and wheat, depending on whether or not the manure is available. The objects in the management of this farm are (1) to determine whether alfalfa will fit into a rotation, (2) if alfalfa thus handled is profitable, and (3) to determine whether alfalfa thus handled will build up land faster than a four-crop rotation. —A. J. A.

BEAUTY AND UTILITY

Many places that mar the beauty near farm buildings can be improved greatly by the tethering of an animal on the waste places and nooks. We have found that our young bull is a veritable automatic mower, and is perfectly happy and contented at it, and does not get as tired as I do when I mow. But the best of all, the avoidance of the little fellow increases rapidly and the closely shaven surface looks so much better than the mingled growth so common about the corners and patches. —D. H. Watts, Clearfield Co., Pa.

Burning Out Stumps.—The article on burning out stumps, published last week, was condensed from an article appearing some weeks ago in *The Youths' Companion*. One of our readers sent us the clipping with his endorsement of the plan described. He said that he had given it a thorough trial, and was so well pleased with the results that he wanted it passed on to other farm readers. In publication of the note, we inadvertently neglected to give credit to the publication in which the article first appeared. The details of the plan and the illustration were first published in *The Youths' Companion*.—The Editors.

Potato Diseases.—More valuable literature of the rot and blights of potatoes is to be found in Bulletin 35, of the Minnesota Experiment Station, at St. Paul, Minn. Relative to disease control, this bulletin states: "Every farmer should observe two precautions in regard to the possibility of new diseases. First, if you import seed potatoes, be sure that they are free from disease. Second, when you find any trouble, send the material immediately to a pathologist." This bulletin also contains descriptions and control measures for several of the more common potato diseases, and photographs of them.

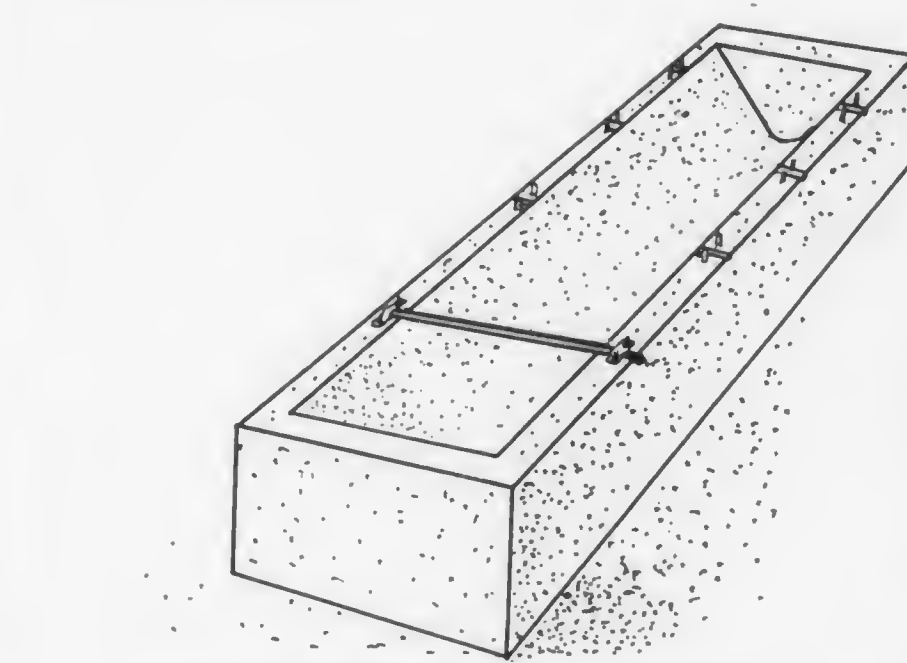
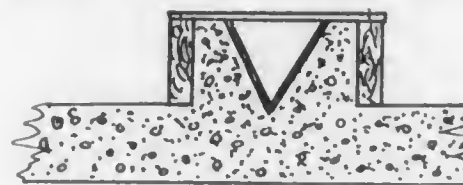
July 5, 1913.

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Live Stock

HORSE BREEDING IN NEW JERSEY

New Jersey is the only state in the Union that has made provision to offer purebred stallions of the coach and draft breeds to the farmers for breeding purposes. Community breeders' associations are organized in every county or district where there is a demand for one of the imported breeding sires, made known by a petition supported by the progressive breeders of a community asking state aid. In 12 of the 21 counties of the state such associations have been recognized, and the commonwealth now offers for public service an English Hackney, a Yorkshire Coach, four Clydesdales and six Percheron stallions, at a uniform service fee of \$10 to insure the mares in foal. Their services are being liberally patronized by progressive breeders



CONCRETE FEEDING TROUGHS FOR HOGS.

owning brood mares suitable for raising colts, and the move is both popular and far reaching in its accomplishments.

There is an unusual demand at local sales stables, as well as in public market centers, such as Philadelphia and New York, for New Jersey grown draft and work horses of useful types. Well-grown and sound native drafters will bring \$50 to \$125 more under the hammer than unacclimated western horses of equal individual merit and soundness that have been shipped in green and sold at the public squares. From experience the farmers and truckers know the difference in utility value between a native horse and an unacclimated western chunk, and are eager and willing to pay the difference quoted, provided they are assured that the animal is the product of the New Jersey breeder.

The workings of the new license law have reduced the number of unsound stallions presented for examination before a designated board from 22 percent in 1909 to 8.4 percent at present; while the agitation for purebred and sound sires has resulted in much greater care on the part of the stallion owners.

The percentage of increase, based upon the total number of purebred stallions in service, has been greater in New Jersey in the past three years than reported from any other state where stallion registration laws are in effect. In 1908 fully 69 percent of the stallions examined were grades, while in the last examination only 31 percent

were grades, and this in spite of the fact that the total number of stallions has greatly increased. The number of purebred stallions in the state has trebled during the last three years, making a gain of over 300 percent in that time.—D. T. Hendrickson, Monmouth Co., N. J.

CONCRETE FEEDING TROUGHS FOR HOGS

Farmers' Bulletin 481 gives the following directions for the building of concrete feeding troughs for hogs:

Such troughs are usually merely long, shallow concrete blocks, hollowed out to a V shape or a U shape. The outside form is a heavy box with vertical sides and ends. The inside shape is given by a core made by tacking together two boards along one edge. Bevel these boards at the joint, so as to give a round shape to the bottom of the finished trough.

Use 2-foot lengths of 1-inch gas pipe, crosswise, as shown in the illustration,

weight of animal. For periods greater or less than 24 hours, the ration should be greater or less, respectively, in the same proportion.

Unloading.—The only practical methods for railroads to transport animals, other than hogs, without unloading during each period prescribed by the statute for rest, water and feeding, are in "palace" or similar stock cars and with emigrant outfits. There are cases in which exceptional facilities complying with the law make unloading unnecessary; for instance, specially equipped cars conveying show animals and blooded stock. In such cases care should be taken to observe the law. In all cases, if animals are not unloaded, sufficient space to permit all the animals to lie down in the cars at the same time must be provided.

Hogs may be fed, watered and rested without unloading, provided (a) the cars are loaded so as to allow all the animals to have sufficient space to lie down at the same time, (b) the trains are stopped for sufficient time to allow the watering troughs to be prepared and to allow every hog time to drink his fill, and (c) care is exercised to distribute properly thru each car deck sufficient shelled corn, or its equivalent in ear corn or other grain, for each hog.

Unloading Pens.—All pens into which animals are unloaded must contain adequate facilities for feeding and watering and suitable space on which the animals can lie down comfortably for resting. Covered pens should be provided for unloading animals in severe weather.—B. T. Galloway, Acting Secretary of Agriculture.

Cow-Ease

Prevents Ticks. **KEEPS FLIES OFF** Cattle and Horses and allows cows to feed in peace, making more milk and more money for you. A clean, harmless liquid preparation, applied with a sprayer. Keeps cows in good condition, and saves five times its cost in extra milk.

TRIAL OFFER If your dealer cannot supply you, send us his name and \$1.25, and we will deliver prepaid to your address a half-gallon can of COW-EASE and SPRAYER for applying. For West of Missouri River and for Canada, above Trial Offer, \$1.50.

Satisfaction or Money Back. CARPENTER-MORTON CO., BOSTON, MASS.

Floors, Furniture and Interior Woodwork **Campbell's Varnish Stain** All sizes and colors, at Paint & Hardware Dealers. Carpenter-Morton Co., Boston, Mass.

HAY CAPS Stack, implement, wagon and farm covers. Water-proof or plain canvas. Plant-bed cloth; water-proof sheeting; canvas goods.

HENRY DERBY 433 W. St. Paul Ave. JERSEY CITY, N. J.

TREATMENT OF LIVE STOCK IN INTERSTATE TRANSPORTATION

In connection with the enforcement of the 28-hour law (34 Stat., 607), the Bureau of Animal Industry has made investigation of the feeding, watering and resting of cattle, sheep, swine and other animals while in the course of interstate transportation. The results of this investigation and the conclusions based thereon are announced as an indication of the views of the Department of Agriculture as to the minimum requirements of the law.

Feeding.—The amount of feed which should be given to different classes of animals varies with the length of time between feedings and the weights of the animals. For each 24 hours the ration for horses and cattle should be not less than 1½ pounds of hay; for sheep, not less than 1½ pounds of hay, and for hogs, not less than 1 pound of shelled corn, or its equivalent in ear corn or other grain, to each hundred-

Pennsylvania Farmer.

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FARMS FOR SALE

YOUR CHANCE TO BUY A FARM IN VIRGINIA Soil, climate and facilities for farming are excellent. Land is developing and increasing in value rapidly. Offer 1000 acres under 10 year lease. Let us send you our illustrated leaflet. Register with full details of special home or investment opportunities. Whether you live here or not, VIRGINIA LAND INVESTIGATION BUREAU 600 Bank Bldg., Dr. Walter D. Quinn, Dist. Sec., Richmond, Va.

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Successors to A. J. Stevens & Co., Established 1887. Farm, Fruit and Stock Lands. We own 50,000 acres of choice improved lands in Gladwin and Clare Counties. Sold on easy payments. Interest 6 percent. Write for information. Gladwin, Michigan.

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Fertile Farms and Improved Lands in Delaware. Diversified farming, live stock, delicious fruits and ideal homes. For information, address: STATE BOARD OF AGRICULTURE, Dover, Delaware.

OUR NEW YORK IMPROVED FARMS are great bargains at present low prices. Send for free list. McBURNEY & CO. 309 Bastable Bldg., Syracuse, N. Y.

MISCELLANEOUS

IT PAYS TO BUY THOROUGH-BRED SHEEP OF PARSONS. "The sheep man of the east." I will sell and ship everywhere and pay express charges. I will start one man in each town. Write for club offer and descriptive price list. Shorthorn, Rambouillet, Polled-Delaines and **PARSONS OXFORDS.** Grand Lodge, Michigan.

Men and Boys \$50 to \$500 a year raising Belgian Hares. Circular Free. Geo. C. Fox, Darton Center, N. Y.

SWINE

FAIRFIELD MAID 3rd

No. 17365, on the 2nd April farrowed eleven pigs, by Beauty's Masterpiece (Berkshires of place). The pigs are all living and are a bunch of beauties. Six sows and three bears for sale. **W. F. McSPARRAN,** Furness, Pa.

Large Berkshire Swine, registered High grade, reasonable prices. Write HOME FARM, Center Valley, Pa.

Large Berkshire fall pigs, either sex, also booking orders for early spring pigs, reasonable prices. FRANK BLUM, R. 2, New Washington, Ohio.

Choice English Berkshire Pigs for sale. Both sex, from prize winning stock. Also one service boar. J. B. WILLIAMS, Rt. 1, Hornell, N. Y.

Poland Chinas and Delaines. Well bred pigs and rams for sale. C. OWEN CARMAN, Box C, Trumansburg, N. Y.

Duroc Jerseys—Champion herd at W. Va., Pa., N. J. State fairs, 1912. Booking orders for spring pigs. R. B. Martin, Mount Mills, W. Va.

MULEFOOT HOGS Oldest breeder in the State. Pedigreed stock for sale. SAMUEL JOHNS, Wilmington, Ohio. Sec. D.

ALFALFA LODGE YORKSHIRES, short nose type. Triple unrelated. Special sale—Book pigs, ten dollars. John G. Curtis, Rochester, N. Y.

Cheshires The pig that pleases the local butcher and his customer. Fred W. Card, Sylvania, Pa.

O. I. C. Thoroughbred spring pigs, Pairs and trios. F. S. MURDOCH, Hartstown, Crawford Co., Pa.

Registered Chester White Pigs and Jersey Bull Calves FOR SALE. J. A. BOAK, Rt. 4, New Castle, Pa.

THIS O.I.C. SOW WEIGHED 932 LBS. AT 23 MONTHS OLD **IONIA GIRL**

I have started more hogs on the road to success than any man living. Have the best and finest herd in the U. S. Every one an early developer, ready for the market at six months old. I want to place one hog in each community to advertise my herd. Write for my plan, "How to Make Money from Hogs." C. S. BENJAMIN, R. D. 5, Portland, Mich.

International Special Molasses Feed

A REINFORCING FEED. A WONDERFUL MILK PRODUCER. SAVES MONEY ON YOUR FEED BILL.

INTERNATIONAL SPECIAL MOLASSES FEED is a re-enforcing feed composed of cotton seed meal, molasses and ground grains. Contains far more energy than ordinary mill feeds. It is the best feed you can buy for mixing with ensilage or home grown grains, also used for mixing with Gluten and Brewer's grains.

Use International Special Molasses Feed and you will save money on your feed bill and largely increase your milk production. Our feeding directions will tell you how to obtain a balanced ration in combination with any other feeds.

Ask your dealer for International Special Molasses Feed. If he don't keep it for sale, then send us your dealer's name and address—we will arrange with him to supply you. **INTERNATIONAL SUGAR FEED COMPANY** M. W. SAVAGE, Pres., MINNEAPOLIS, MINN. (2)

Horticulture

PROGRESS AND VALUE OF TREE PLANTING

Reports are being received from all parts of the country which show that the past season has undoubtedly been characterized by the most extensive planting of forest trees that has even been known in the United States. The work is progressing very favorably in every state in the Union. It has been most extensive in California, the great Middle West, and in the New England States, and tho it has always been more or less limited in the South, because of extensive natural forests, the reports of the past year give indications of a materially increased scope in the work.

Most of the trees that were planted have been hardwoods, but several large nurserymen report a greater sale of conifers for forest planting than they have ever experienced before. In the Middle West the catalpa, black locust, osage orange and Russian mulberry have been the favorite trees; in the north and northeast white pine, chestnut, larch and spruce have been given preference; in the South the native conifers have the lead, and in California, where the immense annual planting area has been increased at least five times its former size, the work has been restricted almost entirely to growing eucalyptus.

Osage orange has been known to produce as high as 2,640 first-class posts and 2,272 second-class posts per acre, and it is well known that no tree will produce a better post than will this species. Land producing such a forest as this could hardly be put to a better use, since timber is the easiest of all crops to raise, and from now on will never go begging for a market. Red cedar in plantations 25 years old has reached a value of \$200.54 per acre. European larch used for fence posts or telephone posts reaches an average value of \$200 to \$300, and white pine plantations 40 years old have exceeded a value of \$300 per acre.

It will not take a lifetime to get results, altho tree planting is usually a long-time investment. Osage orange will reach post size in 12 to 15 years, and lasts well for this purpose. Black locust, tho badly infected by the borer in some regions, grows rapidly and has a high post value, while it also has the great advantage of being able to thrive on poor land. European larch reaches a size suitable for telephone poles in 25 years, and when treated with preservative will last from 15 to 25 years. White pine, on favorable sites, will make saw timber in 40 to 60 years, and already the demand for the timber of this tree shows conclusively that such an investment would prove an immense profit.

In every region in the United States there is one or a few forest trees which can be planted with a distinct assurance of commercial success if the plantation is properly established and given the proper care. The government has made a very careful study of most of the forest plantations in the United States, and has publications which furnish valuable information on tree planting and may be had free of charge upon application to the Forester, Forest Service, Washington, D. C. These studies are made with the distinct idea of benefiting farmers and other land owners and to prevent the waste of thousands of dollars which is lost annually by planting the wrong forest trees. From the manner in which our natural timber has been cut it is evident that each region will have to be made as self-supporting in timber growth as is possible, and it is a good

thing that the plantations which have been started in the past show conclusively that the right forest tree grown in the right manner will bring a big profit.

There are places upon many Pennsylvania farms, as well as upon our cut-over areas where timber would be the most profitable crop that can be grown. —F. J. Phillips.

EASTERN VS. WESTERN APPLES

I hope the agricultural press will begin early this year to talk "spray" and keep it up till the next apple crop is much less muddy of complexion than the last crop was, and not only that, but stick to the point that the eastern orchardist is now in full competition with the apple raiser of the sunnier climes of the Pacific Coast, and that he must depend on something more than mere flavor for selling his fruit. I say mere flavor advisedly, for the far West is saying that it can match its appearance

western apples. He showed some superb looking Newtown Pippins from the West and said they were as fine flavored as anything going. I noticed that such apples sold, often when the lower-priced home fruit was left on the stand. We are not all children, but we do like a fine-looking apple, and we are going to buy it when the contrast is made so sharply as it often is now.

Contract aside, it is time that we paid more attention to the appearance of everything that comes into our markets. I believe that appearance, and appearance alone, will sell anything, be it fruit or vegetables, three times over to once from flavor, for that is an after consideration and has a bearing on the next purchase only. Western New York is, perhaps, the best apple-growing district in the world, but it differs very much in itself, for all that. Orchardists are beginning to notice that certain localities are fine for coloring up apples and are valuing them highly. The territory south of Buffalo is not

Whether "An apple a day keeps the doctor away" or not, it is among our most wholesome food and seldom costs more than it is worth, tho thru imperfect methods of marketing it, it usually costs much more than it should, without giving the farmer much benefit of this extra cost.—John W. Chamberlin, Erie Co., N. Y.

HORSERADISH CULTURE

Discussion of this subject at the present time, may appear to some as "one born out of due season." No doubt, it is to some extent, anticipating; but the enterprise is little known comparatively, and for this reason and the fact that much of the preliminary work can be profitably done now we call attention to the work at this time.

As to demand for the product and the profit in its culture there is no question. The manufacturers of table condiments create an almost endless demand for it or, at least they do when it is to be had. A home market is all around us, as nearly every family has use for it during the canning and pickling season, and there are many men making handsome profits out of bottling it for the grocery trade. To sum up, the profits of its culture are sufficiently large that the growers almost to a man are extremely reticent as to the detail of the work or the profits in the crop. Then, too, there is naturally much prejudice against growing it, as it is nearly always thought of as a noxious weed that can not be gotten rid of. Now, this last objection is true when judged from the standard of the wild sort that infests the fence corners and is so tenacious of life that it is next to impossible to get rid of it when once it has gained a foothold. But when considered from the standpoint of the commercial sorts that are bred up and grown for profit then the objection is stripped of its terrors. And this last thought carries with it a precaution that in purchasing sets from which to grow stock, deal only with growers of known reputation and who are not afraid to guarantee their stock as to purity. With this safeguard and proper care while the crop is growing, there is little danger of its spreading and becoming noxious.

As to soil and its preparation, any ground that will grow a good crop of corn or potatoes will grow a fair, or even good, crop of horseradish. But mediocrity in crop growing is not what we are hunting; but it is the bumper crops we desire, so it pays to select deep, rich soil and by heavy feeding increase its fertility. Heavy clay subsoil is not good unless broken up with the sub-soil plow. Rich sand or loam deeply worked so that the roots shall have ample opportunity to lengthen and enlarge, is the ideal soil. The best preparation is to apply a large quantity of manure at once, and if possible, plow it under very shallow; just enough to cover it, then as early in spring as the ground will work freely plow deeply and top-dress with well-cured manure. In spring, just as soon as soil conditions will admit, work the ground both deep and well and make sure of its fertility.

In setting, mark off the rows three feet apart, and set preferably on slight ridges. When properly put up by the seedsmen the sets or small roots are put up in bundles with the top end cut slanting, so there shall be no danger of planting wrong end up. Plant 18 inches in the row, and this is easiest done with a spade, set it quite slanting, then raise the handle sufficiently to push the set under the blade and deep enough that when the set is covered it shall be an inch or two deep. With the draw the spade and tamp the ground slightly with the foot. In June, and

July 5, 1913.

again four or five weeks later, the roots should be uncovered very carefully so as not to disturb the top root growth, and rub off with the hand or remove with a knife all the small side roots. After removing these cover again. This work will require to be done twice; but it gives a clean root and throws all the growth to the main root, which in good soil will reach from one to two or more inches in diameter. The other culture is the same as for corn until the tops cover the ground, when the crop may be laid by.

Sets of the ordinary, or American variety, can be obtained at reasonable prices; but it pays to get the best, and the Bohemian or Maliner-Kren is easily the best under cultivation. This has been thoroughly tested and is pronounced by the best authorities as the leading sort.

The roots can be fitted in fall same as potatoes or other root crops, and after the first year one can save their own sets. These suggestions are made thus early that those desiring can obtain the stock and make preparations in time, for the crop pays well if the proper precautions are taken, and an early start is made in spring so as to get all the root growth possible.—J. E. Morse, Wayne Co.

TO RESTORE RASPBERRIES DRIED ON THE VINES

It is well known that when raspberries are not picked in time they will either drop off the vine onto the ground, when the weather is wet, or remain on the vine and become dry, when there has been a dry spell.

Raspberries which have dried on the vine have a whitish, mildewed appearance, and hence are unsalable, notwithstanding the fact that they are quite palatable. Raspberries in this condition are permitted to go to waste, and it is clear that many dollars are annually lost when the crop is not gathered in time.

If these dried berries are dipped in hot water, however, and placed in a bin to sweat, they will soften and the whitish appearance will disappear. And if they are then placed in suitable drying crates to dry, they will be restored to their original condition.

Dry raspberries treated in this way will be converted into a wholesome food product and bring as good a price on the market as berries picked in the ripened condition.—F. H. Hayn, Washington, D. C.

FARM CROPS VS. ORCHARD CROPS

In a location where fruit can be grown and does well there is not enough attention paid to fruit growing. Here in Tioga County we have the altitude, latitude and soil to produce the best fruit that can be grown, and still few farmers will give it their attention. In growing hay and grain the crops will not average over \$10 per acre, and when they average that much the farmers have a right to congratulate themselves. While in fruit growing, it is no common yield to get \$200 per acre, especially with apples and cherries.

I will agree that it takes a little more energy and nerve to plant and grow an orchard, but my how it does help after it has reached a bearing age. The farmer can grow other crops while he is growing an orchard, for the more he fertilizes and cultivates his crops, the more he fertilizes his trees. Ten acres in orchard will keep up an average family. "Get busy" and plant some fruit trees; don't wait, but get ready now. Life is too short to farm for \$8 to \$10 per acre, when by using your brain and brawn a little you can grow \$200 to \$500 per acre. Can we af

More Rye

Rye serves the double purpose of a cover crop or a grain crop. In either case it pays to use the right kind of fertilizer on it—the kind that contains enough Potash to balance the phosphate. The mixtures we have told you to use on wheat are suitable for rye, but the



POTASH

may be even higher, since rye uses more Potash than wheat.

Use from 200 to 400 pounds per acre of a fertilizer containing 6 to 8 per cent. of potash.

If your dealer does not carry potash salts, write us for prices stating amount wanted, and ask for free book on "Fall Fertilizers." It will show you how to save money and increase profits in your fertilizer purchases. **Potash Pays.**

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Horticultural Queries.



This department is conducted by Prof. H. A. Safford, State Economist and Zoologist. Questions answered promptly and in a practical manner. Our readers are given the benefit of the advice of one of the foremost authorities in the country in this department. Address all queries to Pennsylvania Farmer, Philadelphia, Pa.

Black Knot

Please send me all information possible concerning the prevention and treatment of knot, so common among the red sour cherry trees. Also information concerning other diseases of the cherry and plum; also of the quince.—E. R. Montgomery, Pa.

The black knot of sour cherry and plums is a fungous disease, which produces spores that are carried thru the wind, and also doubtless by insects and animals that come in contact with the old knots and carry the spores to other places where they develop and grow. Since it is a disease that is inside the woody tissue, there is no chance of spraying to cure it. A fungicide spray liquid will destroy the spores where it strikes them, but it does not cure the knot. The only remedy is to cut it off and burn it. One should cut deep enough to be sure to remove it entirely, and should sterilize his pruning implements between cuts by passing them quickly thru a flame, as a burning paper or torch, or by rubbing them with a kerosene or dilute formalin solution. It is not enough to merely cut these knots off and drop them on the ground, as they retain their spores, which would be carried to other trees. They must be burned as promptly as possible. The surface of the wound where the knots were cut off should be painted with pure linseed oil and white lead paint as soon as possible. Otherwise there is some danger of infection at this place. If one is careful to cut out all the knots appearing on his sour cherry and plum trees he will be able to suppress this disease and prevent serious loss from it.

To spray the stone fruits to prevent the brown rot or ripe rot the best thing to do is to use self-boiled lime-sulfur solution. For this purpose mix eight pounds of sulfur with eight pounds of quick lime and enough water to make it, and after it has slaked about 10 minutes add enough water to make 50 gallons; stir it up well, and spray it over the trees. This is not a poison and will not kill insects, but it is a fungicide, and will prevent diseases of leaf and fruit.

For other diseases of cherry, plum and quince I refer you to the publications of the Division of Zoology, Harrisburg.

MT. GILEAD CIDER PRESSES

The best, most efficient, and most economical method of getting the money out of that apple crop is to squeeze it out with a Mount Gilead Cider Press. Capacity ranges from 10 to 40 bushels daily. We make a press for every purpose. Also cider evaporators, apple-butter cookers, vinegar generators, spraying outfits, etc.

HYDRAULIC PRESS MFG. CO.
(Oldest and largest manufacturers of cider presses in the world.)
245 Lincoln Avenue Mount Gilead, Ohio.

GRASS SEED AND SEED GRAIN

Timothy, all kinds of clover and light grasses. New seed rye. Pool seed wheat in season. Satisfaction guaranteed. Prices and samples on application. **C. J. COVER, Mt. Gilead, Ohio.**

Cabbage Plants \$1.00 per 1000. Cabbage plants \$1.50 per 100. Cauliflower plants \$1.50 per 100. \$2.50 per 100. **BASIL, PARSLEY, Dill, etc., Cool Spring, Del.**

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883 Main St., Hingham, Conn.

SWEET CLOVER SEED. Large biennial cultivated variety, for hay, pasture and fertilizer. Price and circular how to grow it sent free on request. **E. Barton, Box 8, Falmouth, Ky.**

FOR SALE—Cow Peas, \$2.25 per bushel. Crimson Clover Seed, \$4.25 per bushel. Wilson's Soy Beans, \$2.75 per bushel. **JOSEPH E. HOLLAND, Milford, Delaware.**



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The satisfying beverage—in field or forest; at home or in town. As pure and wholesome as it is temptingly good.

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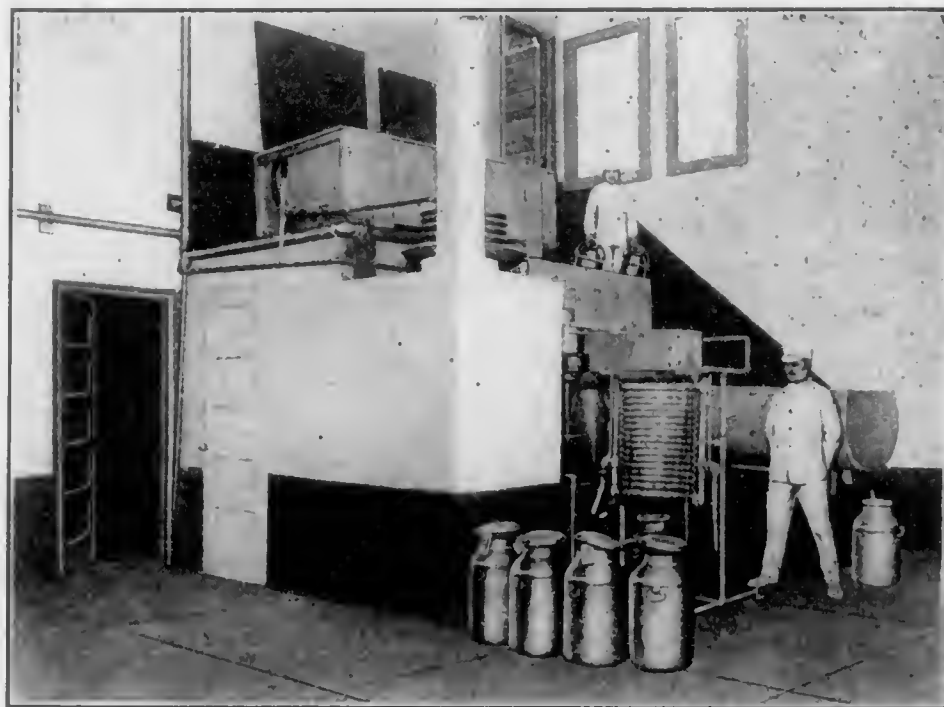
THE COCA-COLA COMPANY, ATLANTA, GA.

The Dairy

BUYING MILK ON BASIS OF
PURITY

(Continued from first page)

edge of pure milk production on the part of the Sparks farmers. Any fault in the creamery might easily have been remedied. The remedying of this other fault was a more serious and more difficult problem. Since neither cream nor the milk from which it is extracted



A CORNER OF THE MILK RECEIVING STATION.

or separated can be pasteurized, any possible remedy had to be applied at the farm itself. It looked as if the dairy company might be compelled to abandon its attempt to secure for its customers a source of supply for pure table cream at this station—a step which it was naturally most reluctant to take. But what else could be done? With this problem upon his hands, a member of the firm chanced to meet Dr. Charles E. North. Hearing Dr. North, who is a member of the New York City

admit that there was anything wrong with their methods. They had good cows and fine barns. They used good feed, pure water and plenty of ice for cooling. They were reasonably careful with their utensils—cans, strainers and milk pails. That anything more could be done, was by no means clear to them. And yet there was no denying that laboratory tests regularly showed the presence in their milk of a bacteria content numbering from 3,000,000 to 6,000,000 per cubic centimeter. Nor had the dairy company hesitated to tell them so. It had regularly sent out postal card notices to all its patrons, similar to the following exact copy:

this, as I see it, is exactly what the Sparks experiment means. Despite the "doubting Thomas" attitude of its patrons, the dairy company went ahead with its arrangements. The necessary machinery for the perfect sterilization of all milk containers and milk pails was installed at the creamery, for it was proposed to perfectly cleanse all utensils, cans, pails and covers at this central point. The old method was to leave this most important work to be performed by the farmer's wife, who washed and sealed the heavy cans, the pails and strainers; and if the weather was fair, placed them in Nature's germ-killer, the direct rays of the sun. What she did in winter and in bad weather no one but the overburdened wife and mother knows. Suffice it to say, that whatever success we may have had in clean milk production under old methods is owing chiefly to her unremitting toil.

The new method proposed to substitute heat at 220 degrees Fahrenheit for the violet rays of the sun, thereby insuring perfect cleanliness under the most unfavorable weather conditions and incidentally relieving the farmer's wife of at least one burdensome responsibility.

The machinery is comparatively simple and inexpensive. There is a machine for scrubbing all containers and pails with their covers, a scalding machine in which they are left for not less than two hours, and a machine to dry them by the application of heat. Perhaps the most important of all utensils is the small-mouthed milk pail, or milking hod with its cover. The entire outfit for machinery and milking hods did not exceed \$1,200.

Besides installing this machinery and distributing these covered milking hods among the farmers, the dairy company, by arrangement with the Baltimore County School Commissioners, installed all necessary testing apparatus in the laboratory of the Sparks Agricultural High School, and also made provision for a lecture course on milk bacteriology to be given to its advanced students. One of these students, Mr. Frank Bruehl, was sent for special training to the laboratories of Dr. North, where he also had opportunity to study the dairy methods employed at Homer, N. Y. Upon his return to the school, Mr. Bruehl immediately began to make laboratory tests of all milk deliveries at the Sparks creamery, both to acquire further familiarity with the work and to secure data which might be used for future comparison.

Actual demonstration under Dr. North's personal direction and supervision did not begin until March 29th, after all machinery was in place and necessary preliminaries had been worked out. The most important of these was the distribution among the farmers of stiff Manila cards, with the following instructions and recommendations printed in bold type:

CLEAN MILK

According to Dr. North's System, for Sparks Creamery

By following these instructions, clean milk containing a small amount of bacteria, as low as 1,000 per c. c. (20 drops), can be obtained.

1. No coolers, aerators, straining cloths or strainers should be used.

2. The hot milk should be brought to the creamery at Sparks as soon as possible.

3. The night's milking should be placed in spring or ice water higher than the milk on the inside of the can. It should not be stirred, and the top of the can should be open a little way to permit ventilation.

4. The milking hods and cans will be



SILOS Buy direct from factory—save \$30 to \$100
We have our own timber lands and saw mills and cover 40 acres with mills and yards. You get the benefit. A better silo for less money. Look at our prices:
8x20 Silo, \$64.72. 10x24, \$92.23. 12x26, \$118.25. 14x28, \$144.65. 16x32, \$185.02.

Any size wanted. We use best silo material. Round iron hoops, malleable iron lugs, long take-up threads. Staves tongued and grooved. Silos air-tight and easy to keep in order. Continuous door front, galvanized iron roof. Let us send catalog and figure with you.
GRIFFIN LUMBER CO., Box 9, Hudson Falls, N. Y.



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"make good" because they're made good. And they've been getting better every year for 15 years. If you want to be treated right, order a Kalamazoo now. We prepare freight. Get our catalog. It tells the whole story. Address Dept. 31, Kalamazoo Tank & Silo Co., Kalamazoo, Mich., or P. O. Box 100, Minneapolis, Minn., or St. Paul, Minn., or St. Louis, Mo., or Chicago, Ill., or New York, N. Y.

FEED
—Milk feed, clover and mixed hay. Split care of shelled and ear corn and oats. Write us your needs for local quotations. W. F. HECK & CO., 727 Wabash Bldg., Pittsburg, Pa.

DAIRY CATTLE

CHOICE HOLSTEIN HEIFER CALVES
of exceptional breeding, four months old, well-grown and well-fed.
\$125.00 to \$175.00 each.
STEVENS BROTHERS CO., LIVERPOOL, N. Y.

GUERNSEYS—We are offering a few choice cows with advanced pedigree records, and excellent breeding for sale. As stock of this description is seldom put on the market, this is a rare opportunity to purchase stock of either for a foundation herd, or improvement of your present herd. We are also offering a young bull by King Master 1084, dam Golden Elsie 2374, Ayr. Reg. 1908; toward 1902-35 lbs. milk, 692.87 lbs. butter fat at 11-2 years. For circular giving breeding, etc., address
CHESTERBROOK FARM, Berwyn, Pa.

HIGH GRADE HOLSTEIN COWS.
We have on hand 100 choice Holsteins, cows, heavy milkers of the choicest individuality and breeding, due to freedom in selection and better feed. Also 75 two and three-year-old heifers, nicely marked and of excellent breeding. Come and see our stock, or write your needs before purchasing elsewhere.
F. P. SAUNDERS & SON, Cortland, N. Y.

FOR SALE—100 high grade Holsteins that give 50 to 60 lbs. of milk daily, 25 reg. cows that give 50 to 60 lbs. of milk daily; 5 reg. yearlings; 15 reg. bull calves at farmers' prices. Branch address: Plumly Farm, Fairview Village, Pa. REAGAN BROS., TULLY, N. Y.

AYRSHIRES—We have for sale young Ayrshire bulls, ranging in age from one month to two years old from some of our choicest A. R. cows. All official records. Send for list.
SOUTH FARM, Wilkesboro, Ohio.

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Registered. Bulls from 4 to 20 months old; also cows for sale.
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1st If you are still using some gravity or settling process of creaming—

Because your waste is greatest and quality of product poorest in mid-summer, when the milk supply is greatest.

Because time is of greatest value on the farm at this season and the time and labor saving of the good separator counts for most.

Because the skim-milk is poorest without a separator in hot weather and often more harmful than helpful to calves and young stock.

Because the work of an improved De Laval Cream Separator is as perfect and its product as superior with one kind of weather as with another.

2nd If you have a very old De Laval or an inferior separator of any kind—

Because the losses of the poor separator from incomplete skimming and the tainted product of the difficult to clean and unsanitary separator mean most when the bulk of milk is greatest.

Because of the great economy of time at this season in having a separator of ample capacity to do the work so much more quickly.

Because an improved De Laval separator is so much simpler and more easily handled and cared for than any other, and you cannot afford to waste time these busy days "fussing" with a machine that ought to have been thrown on the junk-pile long ago.

Because the De Laval separator of today is just as superior to other separators as the best of other separators to gravity setting, and every feature of De Laval superiority count for most during the hot mid-summer months.

These are all facts capable of prompt and easy demonstration, whether you have a poor separator or none at all. The new De Laval catalog, to be had for the asking, helps to make them plain. Every De Laval local agent stands eager to do so with a machine itself, with no obligation on your part to buy unless he does—and that to your own satisfaction.

WHY DELAY? Why put off so important a step as the use of the best cream separator, which you need more RIGHT NOW than at any other time?

The De Laval Separator Co.
NEW YORK CHICAGO SAN FRANCISCO



sterilized and dried at the creamery, and should be carefully protected until they are used.

5. To obtain the lowest counts of bacteria, the following 13 rules are laid down by Dr. North:

RECOMMENDATIONS

For Securing Low Bacterial Counts in Milk

1. Brush the cow's udder and wipe with a clean cloth, and with clean water and dry with a clean towel.

2. Milkers should wash their hands with soap and water and dry with clean towel.

3. Whitewash the cow stable at least twice yearly.

4. Feed no dusty feed until after milking.

5. Remove all manure from cow stable daily.

6. Keep barnyard clean and have manure pile at least 100 feet from the stable.

7. Have all stable floors of cement, properly drained.

8. Have abundant windows in cow stables to permit sunlight to reach the floor.

9. Arrange a proper system of ventilation for cow stable. King system suggested.

10. Do not use milk from any cows suspected of garget or of any udder inflammation. Such milk contains enormous numbers of bacteria.

11. Brush and groom cows from head to foot as horses are groomed.

12. Use no dusty bedding; wood-shavings or saw-dust give the least dust.

13. Use abundance of ice in water tank for cooling milk.

By placing a large blackboard in the delivery room of the creamery, arrangements had been made for the daily publication of the standard of purity or bacteria content of each milk delivery as determined by actual test. This blackboard immediately became the community center of interest. It aroused a friendly rivalry so keen that an unavoidable failure to publish a statement of tests on a certain day almost provoked an indignation meeting. This interest was stimulated by the agreement on the part of the dairy company to pay a premium of 4 cent per gallon for all milk containing less than 50,000 bacteria per cubic centimeter; 1 cent for milk containing less than 25,000, and 2 cents for milk containing less than 10,000. Payment was made twice a month by checks accompanying statements like the following copy:

William F. Cole,
Glencoe, Md.
In Account with GARDINER DAIRY CO.
Creamery deliveries, 4,756
lbs., 559 5/10 gals. @
15 7/10c\$87.84
Bacteria average, 7,061 @ 2c 11.19
For tuberculin testing of
herd, 1c
Total\$99.03
Less for skim-milk, 480 gals.
@ 1c4.80
Average test, 4.5 @ 34c unit, \$94.23
Check herewith to balance.
Payment for half month ending
April 30, 1913.

The result was astounding. Milk deliveries from farms which, with the utmost care, had never shown a bacteria content of less than 150,000 to 200,000 promptly dropped to 20,000, 15,000 and 10,000. As shown by the dairy company's statement to Mr. C., this was still further reduced, for his bacteria

average during the entire second half of April was only 7,061.

The result was not immediately obtained. After the first flush of enthusiasm began to flag, the best men were bringing milk to the creamery which tested from 15,000 to 20,000. Renewed interest was aroused by the offer of a first prize of \$10 and a second prize of \$5 for the best morning and evening average under 10,000 bacteria content. The first prize was won by Mr. William P. Cole, who keeps horses in his cow stable, which is, of course, a poor arrangement. Nevertheless, by refraining from bedding his cows and currying his horses until after the milking had been done, Mr. Cole obtained an average of 7,061. The second prize was won by Mr. Laban Sparks. Both of these men at times deliver milk with a bacteria content of less than 4,000 per cubic centimeter, a most remarkable achievement when it is remembered that a bacteria content of under 50,000 is the usual requirement of municipal inspection standards.

Now how will this affect the farmer? Fortunately it costs him nothing but a little care, provided the creamery installs the necessary cleansing machinery and makes the necessary laboratory tests. The cost to the creamery is less than 1 cent per quart, a small expense as compared with 6 cents per quart for "certified milk." Since the cost of pasteurization must be borne by the consumer, and since it is impossible to pasteurize milk which is to be used for cream production, the logical thing for the consumer to do is to pay this additional cent for milk which leaves the hands of the producer in a pure state, rather than to pay for the pasteurization of an impure product.

Just as the test for butter-fat content enabled the farmer to promptly detect and get rid of the "boarder" cow, this test for bacteria content will enable the farmer to promptly detect and get rid of the diseased cow, without waiting for tuberculin or other inspection. In every instance, the findings of the Sparks laboratory tests with respect to the health of dairy cattle were confirmed by the tests of the state's dairy inspectors.

This method of milk production will not only relieve the farmer's wife of the daily drudgery of cleansing dairy utensils, but it is bound to have a most helpful influence upon farm economies. It is impossible to be painstakingly faithful in little things without being correspondingly faithful in larger things.

The necessity of daily deliveries and cleansing of all utensils at the creamery or milk depot, together with the further necessity of unremitting attention to minute detail, will more and more tend to place the milk business in the hands of the small farmers, who do their own work. It has been estimated that more than one-third of the people in rural Denmark, the greatest dairy country in the world, gain their living on farms of 11 acres or less, and that one-fifth of them live on farms of 5 or 6 acres. This means a very highly developed form of agricultural co-operation, a business which has not yet been organized in this country. It can, however, be readily seen that a method of pure milk production, which does not depend for its results upon elaborate buildings and expensive help, but which directly encourages the organizing of this business around some central point, will necessitate some form of co-operation on the part of dairy farmers engaged in the production of pure milk for our American cities. If the laboratory test for purity helps to bring that about it, like the test for butter-fat content, will again revolutionize the dairy business of the United States.

SILOS \$66.00 UP
depending on the size. We make any size just as cheap.
6 x 18-1 1/2 in. Cypress Silo \$ 68.00
10 x 22-2 " " " 118.00
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What you get in addition to the above is: 1st—Our "BIG" continuous door opening, with galvanized hardware and combination ladder; 2nd—Two galvanized cables; 3rd—Two new style anchor rods; 4th—Interior coated with "Shovel" silos; 5th—Outside painted with oxide red paint. This is the biggest value ever offered—buy now to be shipped when wanted. The difference between buying the "Arundel" Silo by mail and buying a Silo from an agent is to make a saving of from 20 to 40 per cent. If this saving is not made in the price, you surely will save it in the quality.

Buy the "Arundel" Silo, examine it and if it is not as represented, don't take it. That is our proposition—can you beat it? We take the risk, and pay the freight back. Which will you buy? Think it over. Deal with the maker direct. You can buy the "Arundel" Silo on credit. Make a profit before you fully pay for it. Write for our New Way Selling Plan No. 27. Do it now.
THE ARUNDEL SILO BUILDERS
Baltimore, Maryland

The SILO With 3 BEARINGS AROUND THE DOORS

Used on all GREEN MOUNTAIN SILOS. Doors are like those on a safe or refrigerator and exclude the air perfectly. The Silos are constructed to make them last. Hoops are stronger than on other silos. Write for catalogue TO-DAY.
THE CREAMERY PACKAGE MFG. CO.
345 West St., Rutland, Vt.

Kalamazoo Silos
Easily made, easily erected. Molded from cement with an inexpensive mold right on your farm by any farm hand. Makes a silo like rock, frost and fire proof, positively air-tight. We also sell guaranteed tie silos all ready to put together. Either silo big money saver. Write for booklet and full offer.
GEMET & THE BIG CO.
Box 50, Kalamazoo, Mich.

Fill Your Silo Satisfied
Over 63 Years Experience Back of it.
ROSS Machines are fully guaranteed. You take no risk.
We want to prove that our machines are a good investment before you give up your money. We know they are so good that we do not feel it a risk to make this offer. Many new features have been added, which you should know about before buying a machine. Catalogue explains all. It is free. The E. W. Ross Co., Box 161 Springfield, O.

HARDER The "Quality" SILOS

Don't buy a silo which only holds your corn when you can get the famous "Harder Silo" which preserves it and converts it into rich, succulent ensilage of the greatest milk-producing value. Better investigate the old reliable "Harder Silo." Our latest patented feature—the "Harder Anchor"—holds Silo solid as an oak. No danger from storms. The kind "Uncle Sam" uses. Catalogue free.
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Shoo Fly THE ANIMALS' FRIEND
Keeps flies and other insect pests off of animals—in barn or pasture—better than any fly bait. Used and endorsed since 1885 by leading dairy men and farmers.
\$1 WORTH SAVES \$20.00
cows in a single season. It's a milk and flesh on each vent infection. Nothing better for sale. Kills lice and mites in poultry houses.
SEND \$1. If your dealer can't supply you. We'll send you our 1-lb. tube gravity sprayer without extra charge. Money back if not satisfactory. Same Shoo-Fly Mfg. Co., Dept. 42 1310 N. 10th St., Philadelphia.
*Editor knows from experience that Shoo-Fly is a K.

Poultry

TRAP NESTS FOR POULTRY BREEDERS

Trap nests have been only moderately successful. The system of measuring each bird's actual production by keeping an accurate record of every egg laid seems to be all right in theory, but it is not very practical on a commercial scale. It involves an immense amount of work in gathering the eggs and tabulating the results. Some of the originally strongest advocates have abandoned trap nests, altho many continue to use them and to highly recommend them to poultry keepers. The system enables a poultry breeder to single out his best birds for breeding purposes at hatching season. With a knowledge of what each bird's production has been, and by selecting the most profitable egg layers, the average egg laying standard of the flock can be increased from year to year.

The average egg production is only 80 eggs a year per hen. Knowing that many large flocks have a record of 160 eggs or better, and that individual birds often exceed the 200 mark, it is desirable to find out which birds of the

and confines her to the nest until released. The nests should be made so that they can be used as trap or ordinary nests at the convenience of the poultry keeper. More of them must be provided than when ordinary nests are used.

Light aluminum numbered leg bands are best. Care should be exercised when attaching them to fasten them on so that they can not work themselves loose and get lost. When the eggs are gathered, which should be several times daily, so as not to keep the birds confined any longer than possible, every egg is credited when it is placed in the basket. At the end of the day the tickets may be checked off on sheets kept for the records.

The chief value of nests is for the poultry breeders. It is generally considered cheaper in commercial yards to feed a few extra birds than to install a trap nest system and pay for the extra work in gathering the eggs and keeping the records, at least, than it is to practice it thruout the year.—L. J. Haynes, Erie Co., Pa.

THE PROFIT IN POULTRY

The question that is always asked by the average person interested in poultry is, "Does it pay you?" From the farmer who has a flock of chickens run-

roosting coop. When they sleep on perches they do not crowd and are healthy, especially if quartered in an open-front coop.

It never pays to keep hens over the second year, as the early-matured pullet is the money maker if you are in the business for eggs. In our experience in both eggs and hatching young, we found that the matured pullet layed more than twice as many eggs as a hen, and that chicks hatched from matured pullets' eggs, if mated to a good, vigorous, matured cockerel, were equal to any hen mating. We don't mean any pullet, but early-hatched stock, hatched in March and April, so that they are fully matured by September 1.

The person who likes a chicken, who prides himself in keeping his poultry houses clean and free from lice, who keeps fresh water for the fowls, especially in warm weather, and the proper feed so she can make the eggs is the man who succeeds and can tell you his birds showed a profit of \$1.00 or \$1.25 per head for the year.

The hen is only a machine which turns grain and other raw material into eggs the same as a machine in a factory turns out the manufactured article. But both must be fed the proper material in order to turn out the satisfactory manufactured article. Too few persons realize that the small details in raising poultry are the steps to success.

No animal or machine will be profitable without attention, and if farmers and others would give more attention to the little hen and her chick there would not be so many persons saying she does not pay. We believe that twice as much money is made on the smaller one-man poultry plants than on the so-called million egg farms, where labor and uninterested help eats up all profits.

The man who starts with few hens and grows his poultry intelligence along with his business will succeed much better than the man who invests his cash and allows it to be spent by some fellow who has no practical knowledge of the business from poultry work but gets the job by the use of a good tongue and words to suit the occasion.—Frank Kline, Chester Co., Pa.

SPADE UP CHICKEN FEEDING PLACES

On most farms feed for the flock is scattered about on the ground, and the chickens are continually fed within a small space. The surface of the ground soon becomes foul with the droppings of the flock. True, the sunshine acts as a germicide, and if the space is at all sloping the washing of the rain helps some, but generally the spot is level and often muddy. The ground quickly becomes contaminated, with the continual tramping of the flock, and if there be one sick fowl the whole flock may soon become infected. This is especially true with small chicks and young turkeys. The first advice given in cases of general loss is "change your feeding place." It is often impossible to find another location so convenient and accessible.

The spading up of the feeding place once or twice per week will bring good results. It will tend to purify the ground. It will induce exercise on the part of the flock, which is always desirable. Especially is this true when the flock is confined in yards, and green feed, so necessary, is difficult to obtain. If grain is scattered, as one spades up the ground, much will be buried so deep that hens will not scratch it out and it will be thrown up at the next spading with green succulent blades that are greatly relished by the flock.

Be sure to try this method of often spading up the feeding places and

watch results in avoiding infectious diseases and improving the general health of the flock by inducing exercise and furnishing palatable succulent feed.—N. E. Chapman, Extension Poultry Specialist, University Farm, St. Paul.

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CHICKS

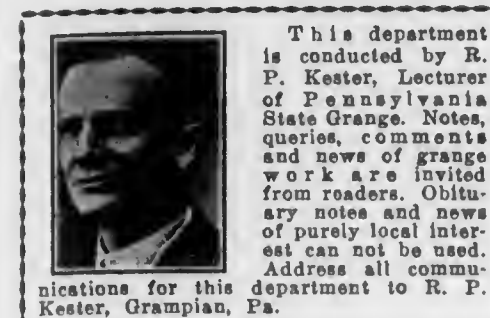
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Grange



This department is conducted by R. P. Kester, Lecturer of Pennsylvania State Grange. Notes, queries, comments and news of grange work are invited from readers. Obituary notes and news of purely local interest can not be used. Address all communications for this department to R. P. Kester, Grampian, Pa.

EDITOR'S NOTES AND COMMENTS

The Homestead

O, wanderers from ancestral soil,
Leave noisome mill and chaffering store;

Gird up your loins for sturdier toil,
And build the home once more!

Come back to bayberry-scented slopes,
And fragrant fern and ground mat vine;

Breathe airs blown overholt and copse
Sweet with black birch and pine.

What matters if the gains are small

That life's essential wants supply?

Your homestead's title gives you all

That idle wealth can buy.

All that the many-dollared crave,

The brick-walled slaves of change and mart,

Lawns, trees, fresh air and flowers you have,

More dear for lack of art.

Your own sole masters, freedom willed

With none to bid you go or stay.

Till the old fields your fathers tilled

As manly men as they!

With skill that spares your toiling hands,
And chemic aid that science brings,

Reclaim the waste and out-worn lands
And reign thereon as Kings!

—Whittier.

Americans are prone to think in dollars and cents. We apply the commercial yard-stick to everything we try to measure. We can not look at a great picture without wondering what it is worth; the beauty of the landscape is lost in the wonder as to how much per acre it would bring; the grandeur of the forest is estimated in board-feet. Until we can view agriculture and its problems with a clearer vision and a better sense of proportion, we can not solve its problems. True, it must be properly rewarded. Man can not live the fuller life while in debt, overworked and under-paid. We must learn how to produce more at a less cost and at the same time learn how to dispose of our products to the better mutual advantage to ourselves and the consumer. But prosperity must be regarded as a means to an end, not the end itself. How? Co-operate!

Agriculture is not really improved until all that goes to make country life is improved. Schools, roads, the church, amusements and the social life are all inseparably connected in country life. And the workers for improvement, both the farmer and the city dweller, must keep this in mind. Above all, it must be remembered that real improvement is made only by mutual endeavor and the conscious efforts of all concerned. We need a more intelligent and a more independent political activity, but the best possible laws would not of themselves be sufficient. Farming must be made more profitable, but financial prosperity in any life often has in it the seeds of decadence. The founders

of the grange had the prophetic vision when they wrote the declaration of purposes and propounded its teachings, and a full understanding and acceptance of its teachings and the full, co-operative effort on the part of the farmers to apply them would surely hasten the "good time coming."

The Sherman Law—Much foolish anxiety is expressed over the proposition to exempt farmers' organizations from prosecution under the Sherman law. The farmers are not asking class legislation. We are opposed to all class distinctions and exceptions. We have had too much such lawmaking in this country. Farmers have opposed it on the part of others and do not ask it for themselves. Just laws fairly administered is our motto. The following editorial from a daily paper, the unsympathetic, is added:

"There is no proposition and no possibility of using the Sherman act to prosecute farmers' societies co-operating for legitimate purposes. But anyone should be able to perceive that it is a vital point what the co-operation is for. If a number of men co-operate to burn a neighbor's house, it is criminal; if they co-operate to put out the fire, it is laudable.

"So with regard to farmers' co-operation. There is not a line in the Sherman act that can be used to prosecute farmers for co-operation to increase the fertility of their fields, to improve their live stock, to establish economies in production, or to secure a better sale of their products. But if they co-operate to prevent production, to produce artificial scarcity, or to forbid sales under competition, then the law can and should interfere.

"There is no likelihood that the farmers can establish an effective monopoly for the simple reason that every farmer works under the more or less direct competition of \$900,000 other farmers in this country, and scores of millions more of them in other countries. But the writing into an act providing means for prosecuting the criminal kind of co-operation that a particular class shall be exempt from prosecution is so flagrant an attack on the principle of the equality of all before the laws that no right-minded man can contemplate it with equanimity."—R. P. Kester.

NATIONAL GRANGE MEETING

The National Grange will meet in Manchester, N. H., on November 12 next. The sessions will be held in Mechanics' Hall. On the 13th the New Hampshire State Grange will confer: the sixth degree, and the Priests of Demeter will invest patrons outside of New Hampshire with the seventh degree, who may desire to return home on that day. The sixth will be conferred again on the following day, and the seventh will be conferred on two classes that day and evening. It is now estimated that 4,000 persons will take the highest degree of the Order at this session of the National Grange.

The Manchester House has been chosen as headquarters, where the rates will be \$2.50 a day up. Reduced rates have been secured at seven other hotels at from \$1.25 per day and up. Early application should be made to Harry W. Spaulding, 1008 Elm Street, Manchester, for rooms. At private houses the rates will be from \$1.00 up. It is announced that there will be no excursions to distant points, but that several of the large manufacturing plants of the city will be visited. An attendance of 5,000 on the best days of the meeting is anticipated. There are 900 patrons in the four granges of Manchester, and their homes will be thrown

open to grange visitors on this occasion.

McSPARRAN'S GRANGE NOTES

Campaign Against Bond Issue



It is not too early to begin an aggressive campaign against the issuing of bonds for building roads. The necessity for an active campaign all summer, especially in the form of printed arguments in all kinds of papers, so that every part of the state and every class of persons may be reached with information, arises from the presence of several active influences that will naturally support the resolution.

There are a number of people who are in favor of good roads and seem to have the feeling that the question of cost does not enter in. We want good roads, so let us have them, is their cry, and they are supporting the resolution because that is the plan that is now being put forward by the state. The automobile clubs as a rule will, I think, favor the resolution. While there are many individual users of autos who are good business men and are not carried away by the misrepresentations and misstatements that are commonly being made, yet we feel that the fact that many are using autos as an extravagant luxury, for which they are unable to pay spot cash, will have the effect of leading to the support of a policy by the state of a similar needless extravagance in order that they may have highways suited as to location and direction especially to that kind of traffic.

Of course, the auto makers will use every effort to obtain the passage of this amendment at the general election. They have ever since the bicycle came out been striving to obtain a boulevard system of road construction. At first the bicycle was used by many to take pleasure rides across country, but it has now taken its rightful place and price as an errand machine for short distances. The auto will undergo the same development. Now the craze is to cross country at high speed, and hence the demand for high speed thru roads. But the people are very foolish to attempt to satisfy any such a passing speed mania. The time will soon come when the auto owner will again return to the steam car and the trolley as the cheapest and safest method of thru travel at high speed, and the auto will, in both price and use, come down to suit its logical place in business and pleasure, namely a short distance utility machine, with the long trip as the exception and for special reasons.

Another class that will easily vote for this resolution will be those who are constantly in contact with bonded institutions. So many of our cities and towns are bonded, and many of our large corporations are very deeply bonded. Indeed, I believe it is safe to say that some of our biggest corporations that delight in being considered expertly managed and skillfully financed if put upon the market and converted into cash, would have very little left after their debts were paid. So many cities are from time to time seeking permission to increase their bonded indebtedness. Happily, we as a state, have steered clear of bonded debt, but the constant association by so many people with organizations that finance their business with bonds can not fail to lead to the deduction that it would be right for the state to finance her projects by the issuance of bonds. A general campaign will be necessary to overcome these influences.

There is not a doubt that if the peo-

ple all over the state are brought to understand the situation they will repudiate this amendment. But will they understand? Will they inquire as to the efficiency of the department that is to handle these funds if provided? Will they grasp the thought that the system proposed is a boulevard system, covering only 8 percent of our roads and not good roads for everybody? Will they study into our tax laws to determine if there is any real need for the issuing of bonds by the state for this or any other purpose?

If they do make this search and study they will arrive at a like conclusion and it will be against the amendment. But I fear that they will not as a people look into this great question that stands at the dividing of the ways. Whatever may be said about the injustice or reckless extravagance of the expenditure of the state's money in the past by boss-ruled legislatures, yet it can not be said of them that they were guilty of running the state into debt.

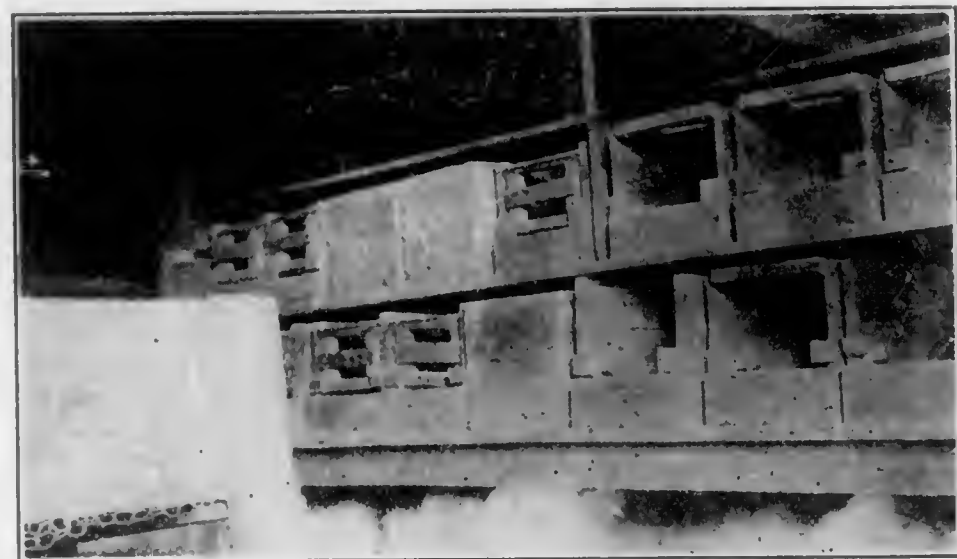
But now when reform is rife and progressiveness is the slogan of the politician, we find ourselves face to face with the proposition to spend not only all our revenues but to spend millions more and compel our helpless children to pay the bill. We should nip this debt business in the bud and instead organize a state highway department that will work out a system of road improvement for all the roads in the state on the same general principle as our public school system, local in its operation and with state aid graduated according to the character and standard of work done by the several communities. With the King drag, the township scraper, the township stone crusher and concrete bridge and culvert construction, coupled with good drainage, we can all have good roads and need not spend all the money in sight to accomplish the end.—John A. McSparran.

AMONG MARYLAND GRANGES

Kent and Queen Anne County grangers are making final preparations for the largest and best picnic yet held. A congenial and competent committee has been appointed, a good sum of money donated, and all are working in unison to make this picnic just a little bit better than last year's event.

Still Pond Grange is holding indoor picnics now, twice a month. The regular order of business has been reduced to a minimum, and we are simply entertaining others by having a good time ourselves. As the weather is getting warmer and most farmers "quit work" earlier now on Saturday afternoons, we hold our meeting at 6 P. M., bringing a box of sandwiches with us for the sake of the sociability afforded. If the day is warm, we have a cold drink; if cool, we have something hot. No tablecloths or dishes are used; we are working on the labor-saving scheme. The boxes are packed at home, a big table is put in the school building where our meetings are held and paper napkins spread, as they serve as a tablecloth and plate. Fingers are used instead of knives and forks—then each fellow can wash his own. A program of fun, frolic and general farm news is given and we get away about 9 P. M.

Our meetings are attended better and we still hang together, so that when the cool days come we do not have so much trouble getting the grange into good working order. We are hard at work on a Better Babies Contest, which will be held in connection with the Kent and Queen Anne Fair in Chestertown. Lots of interest is aroused and we expect to do some good work.—Evelyn Harris.



TRAP NESTS IN A COMMERCIAL POULTRY PLANT.

flock approach this mark and to keep their eggs for perpetuating the flock. It is one of the fundamental laws of breeding that like produces like, and it undoubtedly applies with equal force to laying qualities in poultry if the eggs for hatching are not selected after a long egg laying period, when the vitality is apt to be impaired.

For practical purposes it is not absolutely necessary to keep the record thruout the year. Experiments at the Maine Agricultural Experiment Station indicate that any pullet that produces 60 eggs from the time it begins laying in the fall until the first of March, will average at least 150 eggs or better during the year. By taking the egg production during this period as a guide, the work of trap nesting will be reduced greatly, and it comes at a season when the poultryman has time to give attention to necessary details.

Another reason for trap nesting, especially during the breeding season, is that it gives breeders an opportunity to choose eggs from their most profitable and attractive birds. This is highly important if one is interested in raising show birds. He can save the eggs from the best specimens and eliminate much of the guess work in poultry breeding, both as to laying qualities and the development of fancy points.

There are many kinds of patent trap nests on the market and devices for making them. Anyone that will confine the bird until released by the caretaker and has good ventilation will answer the purpose. They are so constructed that when a bird steps into a nest she trips a door that drops down

ning at large who gives them any attention, the answer is yes; but on the other hand, if we ask the fellow who pays little attention to his flock the answer is, "Hardly pay for their feed." With the first man, he has an object in view; he may be a fancier or a chicken proud fellow, but his object is to get results, either from a feather standpoint or cash from a market business.

In order to do this he hatches his chicks early, has them growing before the hot weather catches them. He protects them with ample shade during hot weather and supplies the proper feed to make them grow. Too many people who try to raise chicks do not feed any more quantity when they are four months old than when they were but four weeks of age, consequently the chick does not grow and the business is called a failure.

It is useless for any person to try to raise chicks with a brooder unless the equipment is of the proper kind, as many breeders are death traps, being poorly ventilated and improperly heated. The greatest mistake is made when the chicks are old enough to leave the mother hen or brooder. They are allowed to sleep in some old coop or box, all crowded in a corner, which causes colds and roup, or the smaller and weaker ones to be killed by the strong fellows.

Chicks should be sorted, placing all of the same size in lots of 25 to 40, regardless of age, and have these chicks start to roost on low perches first, which can be raised to a height of a foot to 18 inches from the floor of the



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Philadelphia, Pa., July 5, 1913.

THE ROAD BOND ISSUE

At the next state election you will have the opportunity of voting on the amendment enabling the state to borrow \$50,000,000 or road building. This amendment, if passed, will open the way for borrowing money for the state government, but will commit the state to a policy of road improvement. Do you favor the amendment? There are many phases of this issue which you should consider carefully before deciding upon your vote. Pennsylvania Farmer will maintain an open department for the discussion of this question. Let us have your opinion for or against the issue.

Secretary Houston is making his administration of the Department of Agriculture felt thru active work rather than words. Little was known of him by the general public when his appointment was first announced, and little has been heard of him and much less from him since he assumed the duties of his office. But the rather frequent announcements that are coming from the Department of new lines of activity and new rulings going into effect are the best indication that there is "something doing" under the new Secretary, and the nature of these announcements indicates that the Department is preparing to render official service in fields that have too long been neglected. About two weeks ago notice was served on the prepared meat trade that henceforth all domestic meat and meat food products would be placed under the provisions of the federal food and drugs act. Just why this was not done when the food law first went into effect has never been explained. The necessity of guarding the purity and wholesomeness of meats is certainly as great as with such products as the average individual uses but a few times in the course of a year, and the present law is as clearly applicable to one class of food products as to another. The new Secretary proposes to see that the law is uniformly and impartially enforced. A later announcement, which should be endorsed by every farmer, is to the effect that the Department

will shortly begin a thorough study of what happens to farm produce from the time it leaves the producer until it reaches the consumer. A specialist on marketing will investigate farm prices, cost of transportation and storage, change of ownership, accumulated charges, profits, etc. Other specialists will study co-operative organizations, assist in formation of co-operative enterprises, establish cost systems, etc. A third set will be specialists in transportation, who will give attention to securing proper freight rates, extending transportation facilities and other matters looking to cheap and speedy moving of produce from the farm to the city consumers. This is a movement that will reach to the heart of the much-discussed cause of the cost of living. It can not be expected that remedies will come immediately, or that they will be complete cures. But if a start is made in eliminating the wastes in present marketing systems, the investigation will be worth while. The government has never recognized the economic importance of market regulations, and this investigation should be an important step in securing needed reforms. The government work in collecting and publishing crop reports has been of great value to food speculators and market manipulators in the past. It is to be hoped that the proposed investigation will reveal ways of making it useful to the producers and the great body of consumers as well.

The article on the first page of this issue is full of valuable suggestions for the milk consumer, the creamery or milk dealer, as well as for the producer. The system described has been made successful in points in New York, under the supervision of Dr. North, and the Maryland example is worthy of study and adoption in many, if not every market milk section of the East. The plan embraces two important principles which must be made prominent factors in the improvement of an industry which has never yielded large profits, and which is becoming more exacting and less profitable each year. The first of these is the element of practical co-operation introduced. The equipment for cleaning and sterilizing milk utensils is out of the question for the individual milk producer, but maintained as a community or company plant, it is not only highly efficient but a great time and labor saver at small individual cost. It is suggestive of other lines of community co-operation and a start along the right line of equipping the community for special work in special interests. The second important principle involved, which is probably of greatest direct interest, is the acknowledgment of the fact that a superior product, as judged by standards of purity and wholesomeness, not only deserves but must yield a higher price. The market milk business has been burdened with increasing demands in the past few years without an increase in returns. At present prices of milk it is absolutely impossible for the producers to meet all requirements. Improved barns, special features of stable construction, care of animals and equipment, and special apparatus to meet all the requirements of boards of health cost money, and conditions in the industry are rapidly reaching the point where the producers must simply receive a higher price or go out of business. The average milk producer today produces just as good and wholesome a product as he can afford to. Very few would refuse to improve methods, and all would prefer to produce a better product if the market warranted it. But the milk producer is not a philanthropist. He is responsive to financial

stimulus just as much but no more than any other class, and he will produce just as good milk as the market will pay for. The strong feature of the Sparks plan is that it pays for the essential features in market milk—purity and wholesomeness—and it makes it worth while for the producer to insure these qualities.

Work-Horse Parades

The custom of holding an annual work-horse parade in cities originated in Boston two years ago. The promoters of the first parade had in mind the increased interest in the care and comfort of the horses from such a public function. It is doubtful, however, if even the most enthusiastic foresaw the popularity and widespread benefits to be derived from such a demonstration. The idea has spread, and at present the work-horse parade is an annual event in most of the large cities of the country. In many places it is a big feature in the annual Labor Day celebration, the horse thus taking his rightful place with his master in the celebration of a day of rest and in the demonstration of his importance in the industrial world. But the movement has had an economic as well as a sentimental value. The horses have been given better treatment, teamsters have taken more care in keeping their animals in condition, and interest has been centered on the details of management that prevents sickness or injury and promotes health and greater usefulness. The demonstration in the recent Boston parade is the best indication of the interest taken by drivers and horse owners in these events. There were 1,231 entries in this parade, and only 89 failed to appear. Every entry that was judged worthy of a ribbon was given one, and 765 firsts (blue), 235 seconds (red), and 51 thirds (yellow) were given out. No horse that was lame, thin or badly groomed received a ribbon. Only 17 horses were disqualified for lameness, 16 for being thin and 6 for being badly groomed. According to a recent publication, the annual "horse cost" in this country has grown until it is now equal to our railroad cost. "Our 25,000,000 horses and mules consumed food last year to the value of \$2,000,000,000." If this is true, the care of city horses to give the greatest possible efficiency in term of service and daily labor is an enormous problem, and the work-horse parades is doing much to solve it by putting responsibility upon the individual caretakers and teamsters. Incidentally, the record of the Boston movement gives a valuable hint on the value of appealing to the pride and encouraging the effort of the individual workman, whether he be a city teamster, a mechanic or a farm hand.

The Meat Supply

The U. S. Department of Commerce has recently published some interesting figures on the meat supply of the world and the share which is furnished by the United States. The total value of meat and food animals entering international trade is approximately \$450,000,000 per year. About one-third of this is from the United States and consists chiefly of pork and pork products. The value of meat products and food animals exported from this country in the year ending with this month will total about \$150,000,000, as compared with \$250,000,000 for the year ending in 1906. But even this reduced total far exceeds that of any other country. The decrease in meat exports which has occurred in recent years has been chiefly in beef; pork products show but a slight reduction. The following six countries are the chief meat exporting countries of the world, and of these the United

States not only leads but actually exceeds the aggregate of its five principal rivals. The value of the meats and food animals exported from the six leading countries in 1912 was as follows:

United States	\$150,000,000
Argentina	67,000,000
Australia	31,000,000
New Zealand	21,000,000
Canada	14,000,000
Uruguay	11,000,000

The following interesting table shows the latest available figures on the number of food animals in the principal producing countries, expressed in millions:

	Cattle	Sheep	Pigs
United States	56	54	61
India	113	26	..
Russia	51	85	13
Argentina	29	67	..
Brazil	25
Germany	21	..	22
United Kingdom	12	30	..
Australia	..	92	..
Uruguay	..	26	..
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THE LEGISLATIVE SESSION

The close of the general assembly of 1913 on Saturday morning, June 28, after an all-night battle over a child labor bill, marked the passing of the most remarkable legislature since the enactment of the constitution, and possibly since the civil war. The session was marked by the greatest amount of proposed legislation ever known. Of some 3,000 bills presented, but 1,147 reached the governor and some of these were recalled for amendment, so that the net total of bills passed will be about 1,100, of which 645 now remain in the hands of the governor for action. More than half of this number are hospital, college and other appropriation bills. The expense of the session will probably run not far from \$1,000,000 when the extraordinary printing bills and the cost of the employees are paid by the day is reckoned up, the cost of printing and of time being due upon many days to outbursts of oratory upon every conceivable subject and to a mania for investigations which developed little matter not already of common knowledge. The session as a natural sequence of a year of abnormal political conditions was marked by continual playing of politics which interfered at times with the passage of remedial legislation and prevented the passage of measures to bring about an amendment to the constitution, whose limitations are becoming more and more apparent every day.

Agricultural Legislation.—The legislation enacted into law or awaiting action by the governor will be rather more beneficial than anything else to agricultural interests. The workmen's compensation act, which would have put the burden of liability upon the farmer with one hired hand the same as the Pennsylvania Railroad or the United States Steel Corporation, was allowed to die in a conference committee, the senate refusing to recede from its position that the operation of the act should be optional instead of mandatory on the employer, thus putting him on a par with the employee. Efforts were made to make the act applicable to people employing certain numbers of people, so as to relieve the farmers and small manufacturers from its operation, but the constitution prohibits such classified legislation. The child labor bill was defeated in the last hour of the session, so that the laws on the subject are just what they have been for four years. The semi-monthly pay bill became a law and lib-

July 5, 1913.

eral appropriations were made to State College for extension of agricultural teaching, soil study and other work, altho until the estimates of available revenue are made up it is hard to say just how much will be actually given. Among the measures of benefit which became laws were regulating construction of dams, providing for inspection of seeds, providing for employment of farm counsellors, regulating cold storage, extending state supervision of orchards, creating auxiliary forest reserves, altho there is complaint on that score because of effect on township taxation, and a mass of road legislation.

Some Bills Which Failed.—Among the sins of commission which must be charged against the legislature are the killing of the bill to require persons and firms handling produce on commission to take out state licenses and the defeat of the bill to require all persons treating trees to take out state licenses. Both were objects of much consideration, and the opponents worked up a strong sentiment among members against them. The effort of the oleo interests to repeal the restrictions even down to the color clause was defeated, greatly to the credit of the lawmakers, who resisted a powerful lobby.

A number of amendments which would have caused havoc with the school code and repealed the most effective portion of the vaccination act went down in the last month together with a lot of legislation relative to trolley companies in the country.

PENNSYLVANIA LEGISLATIVE NEWS

The Highway Situation.—In highway matters the legislative record is the most progressive known in the history of the state, and it has done more to restore to this state its prestige for highways than any other. The most notable effort along that line was the passage on to the people of the proposition to borrow \$50,000,000 for construction of highways, together with an act enabling submission of the question in November. The general appropriation bill contains items of \$3,800,000 for main highway construction; \$1,000,000 for maintenance of main highways; \$1,000,000 for state aid roads; \$100,000 for emergency repairs due to storms or floods; \$200,000 for turnpike condemnation and \$50,000 for tests. The appropriations passed, but not yet approved for township roads cover \$2,500,000 for the coming two years and \$1,000,000 for deficiencies. Large appropriations were also made for the improvement of the Cumberland road, and in addition permission was given to townships and boroughs to connect up with state highways. Finally, the general township road act, placing the supervision of all dirt roads under the state, requiring supervisors to keep accounts in a uniform manner and giving township benefit of state advice and engineers, was enacted.

Appropriation Bill.—The general appropriation bill was passed on to the governor with appropriations to the agricultural, live stock, forestry and coordinate divisions much in the shape recently reviewed in this letter. An effort was made to restore the bureau of statistics to the department of agriculture, but it failed. Farmers' institutes get \$55,000, and provision is made for the first time for seed and bee inspection. The appropriation for suppression of cattle diseases is made \$25,000 added for deficiency in animals taken. The sum of \$25,000 is allowed for cold storage inspection. Only \$50,000 is allowed for purchase of additional forest lands for the state reserves, but appropriations for advice and expert counsel to people on farm forestry and shade trees went unchanged. The appropriation for fire and county and other fairs is made \$100,000. The Chestnut Tree Blight Commission was allowed but \$100,000 and the game and fish appropriations reduced. The schools are given \$16,000,000, and provision made for vocational education, so that the total increase for schools, not including grants to colleges, is about \$16,250,000, exclusive of administration of the department.

Keeping Tab on Patrolmen.—A new

Pennsylvania Farmer

Fight for a Fair.—The fight for a state fair is to be renewed when the next legislature meets. The bill failed to get out of committee affirmatively in the house, altho it passed the senate with little opposition. The fate of the fair bill is somewhat worthy of comment, when it is noted that it was endorsed by the governor in his message and widely endorsed through the state. A misconception of the effect of such an exhibition was apparent among many members from the rural districts, who were strong enough to carry the city members with them.

Coal Tax Enforcement.—The new anthracite coal tax will go into effect at an early date. It is estimated that it will be about 5 cents a ton, and one-half of the tax will be returned to counties where it originates, all districts of the county, whether producing coal or not, sharing in the return. The increase of revenue to the state will be about \$4,500,000, one-half of which will go to counties.

Condemnation Stands.—The decision of the supreme court in the state highway act of 1911 settles the right of the state to condemn turnpikes, and tolls ceased this week upon several in Fulton, Franklin, Adams and adjoining counties. This decision will govern in other counties.

Big Cuts Certain. It is morally certain that big reductions of all appropriations except the most important must be made in the appropriation bills. Estimates are that the total of the bills in the hands of the governor now approved would reach about \$85,000,000. The available revenue will hardly come within \$20,000,000 of that sum, for it must be remembered that some appropriations made two years ago covered periods of several years, notably the western penitentiary construction act.—Hamilton, Harrisburg, Pa., June 30.

NEW YORK LETTER

Grasshoppers in Saratoga.—There is a plague of grasshoppers near Wilton, Saratoga County, which has already caused a loss of thousands of dollars, it is said in farm produce. Several farmers within a section about four miles square report the loss of entire crops of hay, oats and vegetables.

Primary Bill Defeated.—The special session of the state legislature has defeated Governor Sulzer's primary bill, which seeks to put the state party conventions within the scope of the primary law; that is, to substitute the state convention with the direct primary. The governor now sees no hope for his measure until a new assembly is elected in the fall, and he proposes to see to it that assemblymen are elected who will favor his bill. He will urge his friends and the friends of direct primaries to get behind a single candidate in each assembly district, especially where the progressive spirit is in the ascendancy.

Potato Growers to Organize.—It is proposed to organize the potato growers of New York state, and a meeting will be held at the farm of T. E. Martin, in Monroe County, sometime in August for that purpose. Beyond question this should be done. The potato crop is one of the large crops of the state, and an important one, and there is so much that a well organized association can do for the individual grower, the only wonder is that organization has been delayed so long.

Farmers' Association Head.—Senator M. W. Cole, who was the author and earnest promoter of the Cole commission which has been appointed superintendent of the State Co-operative Farmers' Association, which is an organization of producers and consumers into associations for the elimination of the middleman and more direct dealing with each other. He will also assist in the organization of co-operative societies, and give them such advice as may be needed and as he may be in position to give. But this should be remembered: Senator Cole nor any other man can do this work alone. Every man who sells produce from the farm, of whatever sort, should feel an interest in making these societies a success and do what he can to make them so. It would seem that the subordinate grades of the state might be useful in forming a rallying point for these organizations and work in closest co-operation with them.

Container Law.—The Attorney-General has handed down an opinion that the provisions of the new container law apply to commodities shipped into the state from other states.

Keeping Tab on Patrolmen.—A new

regulation of the highway department requires all of the 800 patrolmen of the state highways to report to the department each week on the work of the week.—New Yorker.

MARYLAND NOTES

Weather Conditions.—The protracted dry spell was relieved last week by much-needed rain. It has brightened all crops, especially garden products. On the Eastern Shore the drought was severe, damaging tomato plants, which, with many, are the main dependable crop. Then when rain came it was with a destructive storm. Frederick and Washington counties seemed to be in the center of the storm. Near Frederick large hail and high winds did much destruction to crops, buildings and wires. Around Hagerstown and Williamsport the ripening wheat and growing corn was beaten flat on the ground and hail beat off much fruit. At a dairy farm near Lonoconing, 6 cows were killed by lightning.

New Wheat.—The first new wheat came to Baltimore June 14 from Lancaster County, Va. This is the earliest date heretofore reported. There was 104 bushels of seed grain, 97 cents a bushel. First wheat last year came from the same man, on June 22.

Dairy Interests.—Queen Anne County dairy interests are becoming prominent, both in number of cows and the quality. Mr. John E. George, of this county, at a recent sale in New Jersey purchased one cow having a record of 22,000 pounds of milk, or 950 pounds of butter in 1912. He also purchased another with a record of 104 pounds of milk in 24 hours, and 12 registered Holsteins having great milk records. This addition increases his herd to 60.

New Maryland Fruits.—Among the new promising fruits the Department of Agriculture gives in this year's list is the Monocacy apple and the Chesapeake strawberry, both of which originated in Maryland. Mr. George Feby, of Washington County, is aiming to outwield Luther Burbank. It is claimed among the novelties Mr. Feby has "created" on his four-acre farm is a dwarf chestnut tree, six feet high, with branches spreading 12 feet in each direction, and now bearing nuts; a new berry, by crossing currant, raspberry and a blackberry; an apricot grafted on a wild plant found in the woods, which promises to result in a climbing fruit-bearing bush; grafted Gerber pear on pawpaw. On one apple tree he has 85 bearing apple grafts; one pear tree has 12 varieties of pears. He has also crossed cherry with plum, nectarine and peach, peach and plum. He has produced a black-skinned peach, and is trying to get a cherry that will have its ripening season in September.

Crop Prospects.—At last meeting of the Junior Chamber of Agriculture Club it was reported that there is a shortage of the hay crop of 50 percent, and the dry weather was seriously affecting field and garden crops. The White Hall Farmers' Club reported wheat and grass crops short of usual yield; corn and oats looking well.

Berry Harvest.—Washington County has a record raspberry crop. Large shipments are made daily to the leading eastern cities. The B. & O. R. R. put on a special train that leaves Hagerstown every evening. On June 23 this train hauled three cars of raspberries from Hagerstown, two from Keelysville, one from Eakles Mills and two from Rohrerstown. Pittsburgh was the destination of most of these berries. Inspection by experts last week determined the fact that berries in Washington County would be the lightest crop for years.—G. O. B.

COUNTY NOTES

Potter Co., Pa. (N. C.), June 25.—We are having nice sunny weather. Live stock is looking fine; pasture will soon get thin if we do not get rain. Corn is late; other crops are looking fairly well. Oil seedling is the Buck wheat is about all sowed. Cultivating is the work of nearly every farmer.—Louis Zundel.

Cattaraugus Co., N. Y. (N. W.), June 27.—Very warm with frequent showers. Early part of June was cold and dry. Since the 20th have had some heavy thunder showers, which did considerable damage to farms and live stock. Hay crop is looking poorly. "Paint brush" very plentiful. Farm work well along. Farmers preparing for haying. New feeding looks fine. Oats prospects are good. Butter, 32c lb.; eggs, 20c doz; cheese, 14c.—Geo E. Kellogg.

Frederick Co., Md. (N. C.), June 28.—

Weather cloudy, sultry, showery and warm. Live stock in good condition. Cows much cheaper; stock cattle about same. Wheat ready to harvest; not so well filled. Do not think crop up to average. Lots of straw falling, caused by fall fly. Some wheat very short and thin on ground. Oats very short. No clover hay and not a large crop of timothy. Corn and gardens looking fine. Drouth of one month broken 22d.—H. C. Fawley.

Junata Co., Pa. (C.), June 24.—Good haying weather. Beef cattle and cows in demand and prices high. Butcher stock, 5@7½c, live weight; cows, 550@75. Wheat, rye and hay, good crops. Oats growing well but thin on ground. Corn good stand and growing well. Wheat, 1½; corn, 80c; oats, 45c; butter, 32c; eggs, 18c; spring lambs, 7c. Corn well cultivated. Haying begun. Pastures failing; need rain.—D. B. Esh.

Clinton Co., N. Y. (N. E.), June 25.—A very dry June; broken today by heavy rain. Fresh cows scarce and high. Very few pigs being fed. More heifer calves being raised than usual. All crops backward because of cold May. Hay short and weedy. All planting now done, and most corn up and looking well. Cultivating being done.—Henry E. Gilmer.

Centre Co., Pa. (C.), June 25.—Weather fine, first of June; 9th and 10th a serious frost, injuring growing crops and fruit. Present indications are that there will be but one-quarter crop of apples, peaches and pears. Small fruits a failure. Hay crop short. Oats a poor stand. Corn needs warmer weather and is small; still some planting to do. Wheat at a good crop. Stock of all kinds selling high. Labor scarce and high. Farm work well up. Some alfalfa hay made. The corn being late, means a busy time ahead. Hay and harvest time near at hand.—W. H. Fry.

Bradford Co., Pa. (N. E.), June 23.—Very warm and dry. Cows are doing well. Dairyman's League has raised prices on milk 3c per hundred. Cows are very high in price and scarce. Corn, oats and hay are suffering from the dry weather. Work pretty well caught up. No rainy days to rest.—L. C. Burroughs.

Cumberland Co., N. J. (S. W.), June 24.—Army worms have done much damage to wheat. Hay is being cut earlier than usual because of these worms. The recent rains have put the potato crop in good condition. This section appears to be ahead of others in potato prospects. Last year the Kiefer pear crop flooded all local markets. This year there are whole orchards without a pear.—C. S. L.

Adams Co., O. (S. C.), June 24.—All last week was excessively hot. Temperature in shade was 100 degrees and reached 102 degree on one day. Close of week was attended by a heavy rain, which has revived the meadows and vegetation in general. Corn is well cultivated, most of it the second time, and is making a rapid growth. Oats promise a full crop and a large area was seeded last spring. Wheat is considerably injured by Hessian fly and joint worm, and is badly straw fallen. Some wheat will be cut this week. Meadows are light and the hay crop will not be near as large as last year. Wool about all sold, at 17c for fine and 20c for large open wool. Much interest being taken in dairying, and the creamery at Seaman doing a helpful business for farmers and whole community.—W. E. Roberts.

The Melon Aphid.—The following control measures are given in Bulletin 98, of the Oklahoma Experiment Station, Stillwater, Okla., for combating the aphid on melons, cucumbers, etc., which, in the last few years, has been serious: A tobacco preparation, diluted 1 to 900 with water, and sprayed just as soon as the aphids appear on those plants showing attack will check the damage. The knapsack sprayer is the most practical machine to use for this work. Other information about this insect can be found in the bulletin.

Economic Insects.—The more common economic farm insects and animals are described in Bulletin 198, of the Ohio Experiment Station at Wooster, Ohio. Not only are the habits of the animal catalogued, but also the most practical control measures for it. Some of the newer insects, of which many of us are ignorant and which promise to become serious pests, are fully illustrated and described, and these especially should be studied in order that a possible local infection may be avoided.

The Daughter of David Kerr

By HARRY KING TOOTLE.

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CHAPTER XXII (Concluded)

Mr. Wright would gladly have made Gloria's recital of the details easier for her, but she was not to be deterred from her set purpose, and therefore affected not to hear, going straight on with her narrative.

"You see, I was proud of my father. All my life he'd been an ideal, not a reality, and I thought him incapable of anything base. It turned out I was wrong—what I said about you."

"No, Gloria, you just didn't understand."

"But, just the same, I was wrong, and I wanted to tell you before I went away. I knew I should not be here when you return, and so I came today."

"You're not going to leave Belmont?"

"Yes, I am. Do you think I could stay?" Her tone made Wright's heart sink. "No, I lack the courage, Joe, the moral courage. There's that much of the butterfly left in me. I'm not strong and brave like you are."

Gloria could not know how his strength and bravery were slipping from him little by little as they talked. Her very presence was weaving its subtle spell about him, snaring him with her wavy beauty, maddening him with the thought that he was losing her. So she was going away. He wondered why, speculating on how she had come to learn the truth. This led him to ask:

"But your father?"

Had Wright known what a piteous outburst this would evoke, he never would have spoken. Every anguished word she uttered seemed to burn into his soul. He walked up and down nervously as he listened.

"My father! What am I to him? I haven't seen him from that day. Since then I've been with Mrs. Hayes. When I learned at luncheon that you were going away, I had to come because I can't forgive myself for what I said in Judge Gilbert's office that came near ending so—disastrously—for you."

"Please don't think of it," he begged. "I don't connect you in any manner with the attack on me."

"But I do," she insisted, "because I know the truth." Here was the whole reason for her coming, she told herself. "Since you're in this fight to stay—even the you're fighting my own father—I want you to have all the protection that knowledge of the truth will afford. I've come to warn you."

Wright saw that he had not made her understand that he was giving up the fight.

"But I'm going away."

"Yes, you've told me; but you're coming back again, because you know your place is here. There's work to do."

He recognized instantly that it was her wish for him to remain. Her belief in him, such as it was, centered about his efforts to make Belmont a better place. Not wishing to explain what pain it would constantly give him were he to do so, he avoided the matter by referring to her own future.

"What are you going to do?"

"I'm going abroad in a few days."

"What does your father say to that?"

Gloria's lip curled with scorn at the

question. Her answer came with the coldness of a woman of the world, whose warm sympathies had been cruelly turned into sour distrust. It was the answer of a disillusioned woman who must now fend for herself.

"He can't say anything. What is he to me? I haven't even sent him word yet. He gave me everything in the world, but then at the supremest moment of my life he robbed me of it all. Would a father do that?" she asked fiercely. "What allegiance do I owe to him. The claim of blood! Bah! He's always wished I'd been a boy. He didn't lie to me because he loved me. He didn't even know me. Do you think it wrenches my heart to leave him now? No; a thousand times, no. We've lived too many years apart. What have we in sympathy? We'd be strangers to me lived under the same roof for years."

"But when you go abroad what are you going to do?" He could see no future for her.

"Just drift. There is so much that I want to forget."

"Much, Gloria?" he asked gently.

"Yes, much." She would not let him trap her into a damaging admission.

"Everything?"

"Everything painful."

Her attitude, he felt it was antagonistic, impatient even of his kindly questioning, stirred him to a vigorous reply. After all, she was but a child, and like a child wanted to shirk the lesson life was teaching her.

"Surely I've not been mistaken in you," he began. "It's by suffering that we learn to live. You've only come to see life at it is, that's all. Would you throw away the precious knowledge that is power for an Arcadian ignorance akin to weakness? You've just said that you've come to warn me of something. Were you true to your theory of life, you would leave me in ignorance, because the truth would give me pain. But you don't believe that."

From the depth of his world-scarred heart he pitied her. She was so young, and so rebellious. He yearned with a great longing to protect her, to shield her from life, but he knew that it could not be.

"It's easy enough to talk and give advice," Gloria flung back at him. "What has suffering taught you?"

"It has taught me to be true to my better self." He spoke sternly. Then he regretted that he had seemed harsh with her, for it did not soften her, and she made no comment.

"Please sit down," he said. She accepted the proffered chair stiffly and waited. He had listened to her patiently, and she felt it only fair to hear what he had to say before she left him forever.

Wright came as close to her as he dared. As he spoke, she abandoned the rigid attitude she had felt constrained to assume and sank back in the big chair. The man stood behind her, almost leaning on her chair. His voice was low and pleading. She closed her eyes with the pain of it all, as she began to comprehend the full meaning of what he was saying.

"Gloria, I didn't mean to be harsh just now. God knows I would spare you all you have been thru could I have done so. Blot out this terrible

week. Can't we go back to that heart-

long courtship crowded into half an hour? Let everything be as it was. Then I begged you to go away. Now, since you are going, let us go together. Listen, don't you remember?

The sun is the flame of the desert, And you are the flame of my heart, Dreary indeed is the desert unshined, And dreary without you, my heart.

"You know it's the truth, Gloria. Let us go together."

He bent over her, trembling with emotion. The girl leaned away from him and put out her hand to keep him from coming still nearer.

"Don't make it so hard for me, Joe dear," she begged. "When you kissed me I thought I knew my heart, but now nothing in the whole world will ever be the same again. You mustn't blame me; I still like you, more than ever, but in a different way. Can't you understand? You have told me I'm more than a shallow, frivolous girl. I honor you for the offer, Joe, but I wouldn't be true to that better self you talk about if I accepted."

"I make no offer, Gloria," he pleaded. "I'm begging you to love me, to become my wife."

She trembled visibly at his words. Yet her resolution was such that she was not shaken from her purpose. She did not dare look at him, however, as she answered:

"I'm afraid the love one must beg for wouldn't be worth having, Joe. You wouldn't be happy with me. No matter where we went you couldn't forget what happened here. Then consider me—if you'd ever be absent minded for a minute, gazing into space, I'd know you were thinking of Belmont and the opportunities you'd thrown away because of me. I couldn't stand it. I'd always feel that you were recalling the past and regretting the present. It would kill me. No, Joe, I couldn't."

Wright's proposal had been totally unexpected by Gloria. Up to the time he had begun to plead with her to go away with him, she had maintained fair control of herself. His generous offer, as she termed it, had pierced her armor of reserve and laid bare her warm, quivering heart. It was more than she could stand. Her nervous forces had been exhausted, and she began to weep.

"Pride, Gloria, pride," the man whispered. "It's pride that's keeping you from being true to yourself and true to me."

"Don't speak to me, Joe," she sobbed; "I can't stand it."

In his heart he yearned with all the ardor of youth and love to gather her in his arms and comfort her. Yet he knew her well enough to know that it could not be. Her humiliation had reared impregnable the barrier she had erected between them. There was naught he could do but suffer in silence while she wept.

CHAPTER XXIII

Gloria hated herself for the paroxysm of emotion to which she had given away in the presence of the man whose love she had rejected. There was no interpretation to be put upon it save that her nerves were overwrought, yet she did not know how he would construe her tears. She did not wish him to think her weak. Suddenly the girl remembered that tears were a woman's weapon. The thought so enraged her that in her anger at being so much a mere woman she forgot to weep. She laid in her the spirit of her father. Drying her eyes hastily, she turned to say good-by.

Wright saw her turn and held out her hand. Could she have changed her

mind? His heart prompted this thought, but one glance at her face told him she was still determined to go her own way alone.

"Good-by," she said.

"Is it to be good-by, Gloria?"

"That, and nothing more."

The man looked at her in a dazed manner. Now that the time of parting had come she had far more self-possession than he. He groped about in his mind for something to say, but words were inadequate. There is no telling how his feelings might have betrayed him had there not come a knock at the door to interrupt their parting.

At the sound Gloria exclaimed with a start, "Who's that?"

Wright walked to the door, saw who asked for entrance, and opened it wide for Patty to enter.

"Mr. Joe, there's a man says he must see you at once."

"Did you tell him I was busy, and to wait?"

"Oh, yes, just like you told me, but he said to tell you he was David Kerr!"

"My father!" Gloria took a step forward. Her exclamation told what a surprise this news was to her.

"What does this mean?" he asked.

"You know as much as I. I've told you I've not seen my father since that day in Judge Gilbert's office. He's been busy with politics, but, more than that, I've—well, I've preferred staying with Mrs. Hayes."

"Wait a minute, Patty," Wright motioned the child to the door. Then he turned to Gloria. "You can leave by this side entrance. No one will be the wiser for this visit. The minute the door closes behind you, Patty—and I will have forgotten that you called but I will not have forgotten your kindness and consideration. Before you leave I want you to know that I can't value too highly the motive that prompted your call. To the end I'll treasure it as a memory hallowed by the parting from the only woman I—Good-by."

He felt that he could not complete what he wished to say without a show of emotion to which it would not do to give away. The only thing he could do was to hold out his hand and say, "Good-by."

Gloria put both her hands behind her back, and shook her head.

"No, I refuse to go."

"What do you mean?"

"I mean just what I say. I intend to stay here and meet my father and hear what he has to say to you."

Wright gazed at her intently, but she did not quiver under his scrutiny. His effort to read her thoughts, to divine the impulse that had led her to her decision to meet her father in his apartment, met with no success.

"It shall be as you say," he assented. "Go, Patty, tell him to come in." After Patty closed the door there was an awkward silence which he broke by saying, "I must say that this meeting is ill-advised."

She sighed and shook her head.

"Oh, ill-advised or not, my mind is made up. Things can not go on as they are. If henceforth I am to direct my own affairs, why shouldn't I begin now?"

"But how explain your being here?"

"If he can't believe what I have to say he isn't worth the slight esteem with which I still regard him."

"Here he comes."

"Let him see you first." She retreated to a corner of the room where her father's first glance as he entered would not discover her. Patty opened the door and David Kerr walked into the room.

The two men looked at each other without any attempt at a feigned cordiality.

"Mr. Wright," began the boss, and at mention of his name the newspaper man bowed slightly in recognition of the greeting. "I met Dr. Hayes this afternoon. He spoke of you, and what he told me has led me to break a custom of years; I've come to see you. In this town it's always been the other way."

He spoke with all his accustomed force, and seemed even more confident than usual, as he added, "the old way will continue, sir, but owing to what you might call the relationship that once—"

"Sir!" thundered Wright in astonishment. Covertly he looked at Gloria. To find his own amazement mirrored on her face.

"Bound us, I thought I'd come to see you," the boss continued, not heeding Wright's exclamation.

"One minute, sir," Wright was not willing for him to proceed without his knowing that his daughter was in the room with them. "Before you speak further you must know that we're not alone in this room."

"We're not?" He looked about him, and at the sound of a familiar voice turned sharply to confront his daughter.

"No, father; I'm here." She advanced coolly to the center of the room, and waited for him to speak.

"Gloria! My daughter here!" He managed to gasp. Wright, determined not to have his hand forced, waited to see what card the daughter would play.

"Wait a minute, please," she remarked quietly, the most self-possessed of the three. "Are you so blind you can't see you find me here because I wish it so? My visit to Mr. Wright surprised him just as much as did yours. When you were announced, I told him I would stay."

"So that's it, is it?" her father raged. "Have you turned against me, too? Why didn't I raise you like you ought to 'a' been!" It was with an evident effort that he was restraining himself even as much as he was.

"Would to heaven you had!" Gloria exclaimed in a low tone. "You gave me only the roses of life, and now the thorns—all that life offers me—seem sharper than I can bear."

Wright had thought his heart had been so wrung that nothing could hurt him worse, but this confession of unhappiness to her father made his own unhappiness greater than he had believed it could be.

"Gloria, this is distressingly painful. Please don't," he begged. Then he turned to her father. "Why leave you come here?"

"Why is she here?"

"Father," now she spoke timidly, a maiden telling of a dear, dead love, "for a little while Mr. Wright and I—were engaged—to be married. I don't think you know what that means to a girl, what it meant to me. But you do know how it ended. Yet we're still such good friends that I felt I could come this afternoon to—"

As she spoke, a great light began to dawn upon her father. At the words, "good friends," he saw his whole plan successful, although worked out along lines a trifle different than what had been in his mind when he had determined to call upon the editor. Your successful general is a great optimist, and David Kerr was quick to seize this opportunity.

"Good friends!" he echoed, interrupting her. "Then I'm glad I found you here. Just listen to me a minute. I ain't got much to say, Mr. Wright, but we understand each other pretty well. Now then—you gave us a pretty hard bump, an' I admire you fer it."

"Of course, you're new to Belmont an' it looks all right from yer pint o' view," His tone was now suave and

conciliatory. "But you're too good a man to be blockin' the wheels o' progress in this town."

"Things were running pretty smooth when I came here, weren't they?" Wright was willing to admit that much. "Exactly, exactly." Kerr took a step forward and glanced at Gloria before he went on. "Now, then, what do you say to this? You ain't no more republican than you're democrat, so switch over an' join me. If it's too strong for you to go, I'll cut out that Maple Avenue railway line, an' we'll go at it some other way."

Gloria looked at her father in astonishment. Wright did not interrupt him, wishing to hear all that he had to say. "This campaign's taught me I'm growin' old. Some day somebody's got to take my place. There ain't a man in the party with your sense. I need you, an'—what's more—you'll profit by bein' with me."

"Mr. Kerr, it won't take me many words to give you your answer."

Reading disapproval in the remark David Kerr craftily replied with his kindest manner, "Take yer time, take yer time. The more you think it over, the more you'll like it. Besides, I'm thinkin' of Gloria. You two talk it over. She's—"

"Father!" The girl was perfectly horrified and her sense of the fitness of things outraged by having her name dragged into the discussion. "Would you dare connect my name with such an affair?"

To the coarse nature all things are coarse, and her father seemed surprised that she should resent the manner in which he had connected her with the offer. "Au' why not?" he asked. "I've been thinkin' the matter over, an' you and him would make a pretty good team."

"Oh!" Gloria's disgust was unspeakable. Mere rage was useless to express her feelings. She gave her father one withering look and turned away, walking up and down the room like a caged animal.

Kerr turned to Wright, since Gloria appeared to have no inclination to listen. "So I argues, why not fix it up between us." Then he spoke to his daughter in explanation, "Not knowin' you'd be here. But it's just as well. Now, Mr. Wright, what I say is this: This town wants somebody to run it. Belmont can't get along without somebody to keep the wheels greased. I'll put the paper on its feet for you, an' gradually—as gradually as you like—your kin come over to my way of thinkin'."

Then what'd be more natural for you to take over the runnin' o' things—especially as you'd be my son-in-law."

Wright was about to make reply, but Gloria was too quick for him. Stamping her foot with rage, she paused before her father defiantly.

"Oh, this is more than I can bear! Am I a dog, a horse, a pig, that I can be traded in a dirty deal with not so much as 'hy your leave.' I'll not stand for it another instant. One humiliation after another has been my lot, but this is the last. I'm thru with you. What has passed has taught you nothing; you're the bargaining, trading, schemin' politician still, so low that you'd make your own daughter, your own flesh and blood, the bait to lure a good man from his purpose. But you can't do it," she cried, a note of triumph creeping into her denunciation; "he's not your kind. And do you believe that I'd submit to such a thing? What can you think of me? You put me on a plane with those vile creatures who pay you for protection."

"Gloria, please stop!" Wright pleaded. Her father could only look at her in wonder as she poured out the pent-up passion of her inmost soul.

"No, I'll not stop—there's more to say.— Here, within this hour, Mr. Wright asked me again to be his wife, and I refused—refused because of you. I came here to warn him against you. To tell him the truth, because once we loved each other. No one can blame me for wishing him well. I came to tell him because I can't be here after this to save him as once I did. Over my body I dared your hirelings to take him, and not one moved. Now I'm going away forever and I want him to have what protection the truth will give. But my warning would be useless; what you offered to do just now is warning enough in itself. The man who would sell his own daughter is capable of anything!"

"Please, Gloria, stop," Wright entreated. "I'm not accustomed to have anyone else fight my battles for me. I can take care of myself."

"May be you can," sneered the boss, "but ever since you've been here you've been hidin' behind my daughter. It's because o' her I didn't go after you hot an' heavy long ago. An' then when they did come near gittin' you the other day, she stopped 'em."

"You, Gloria!" Wright could not understand. She only bowed her head.

"But now, by God! that's all past." Kerr brought his fist down on the table with a bang. His breath came in apoplectic gasps and his face was livid with rage. "She's out of it as far as I'm concerned. I did everything in the world for her, an' it wasn't no use." He turned to his daughter as he hurled out his anger and disappointment between his gasps for breath. "I was ready to stan' by you to the end, an' what do I git for all my schemin' an' plannin' fer you? Nothin' but glum looks an' harsh words. If yer goin' away, go. I disown you. I cast you off."

The girl did not quail beneath his bitter words. They only inflamed her to announce the decision she had already made. Her lip curled with scorn, her eyes snapped, as she looked at her father.

"You disown me! You cast me off!" All the contempt she could muster she threw into her voice. "What right have you, who would barter me away as you would a horse or dog? No, it's I disown you!"

Wright walked over to her and sought to take her hand gently in his, but she drew away. She would stand alone. Like a blind old bear David Kerr seemed to grope his way to the door. There he turned to gaze once more upon the wreck of his latest schemes. His rage was still hot upon him.

"I found you in this—this—adventurer's room. I leave you here. Look to yourself, you are no child o' mine."

The door banged behind him and Gloria Kerr knew that they had met for the last time. The girl, feeling so miserably alone in the world, turned to find bent upon her the tender gaze of the man whom she had once sworn to follow to the end of the world. For them love was dead, she knew, and now life would be for her only a succession of weary days.

"I thought all but my body died that day we spoke of love to find it but a dream," she acknowledged sadly, "yet there was one cup still more bitter I had to drain—and this was that cup's dregs."

"Oh, Gloria, believe me, out of unhappiness happiness comes. Your place is with me now. I hadn't told you, but I, too, am going away forever. And what is more, I'm going to take you with me."

She looked at him in wonder, then slowly shook her head.

"No, you can't leave Belmont, Joe.

You're not a coward. I'm going, but your place is here."

"Do you think I shall let you go alone? Never. The one reason I am going East is to sell the Belmont News. I'm thru with it. Then I shall follow you over the world until I make you mine—because I love you."

The girl looked at him with the faintest of smiles battling with her settled melancholy. He was bordering on melodrama, and she was regarding him with the same gentleness a loving mother exhibits toward an unreasoning little child.

"How selfish you are, Joe. All your fine sermons are going for naught. You've preached of your duty, and yet at the chance to show your devotion to that duty, you're wanting to give up the fight. I'm not worth it, Joe, really I'm not. Think of Belmont. A general doesn't desert his soldiers after a victory, just because he knows the enemy has sent for reinforcements. That would be cowardly, and it isn't like you, Joe. The brave general doesn't give ground, he advances. Don't follow me; I would hate you. I know how Belmont needs you."

"But I need you, Gloria. And what is more, you need me and I can't let you go alone. There is a world elsewhere, even other Belmonts where we can live and labor and love. I didn't know till your father referred to it that you were at Noonan's that day. Can't you see how I need you for my guardian angel? How did you happen to be there?"

Briefly she detailed her visit, minimizing her part in saving him. None the less he was able to see that it was to her that he owed perhaps life itself. He listened in silence, letting her tell her story in her own way. After she had ceased to speak he still was silent, going over in his mind the motives which might have prompted her in coming now to see him, to warn him, as she had said. His heart led him to but one conclusion, a conclusion he reached gladly. He believed she still loved him. She was a woman, therefore to be won. There was just one way to win her, he felt.

"Gloria, I've come to a decision," She looked at him questioningly. "I'm going to do what you've ordered. I'm going to stay here and fight for Belmont."

"Joe, you mean it!" Her face lit up with pleasure and she held out her hands to him. He took them both, and to her surprise, and despite her resistance, drew her to him.

"But I'm not going to stay alone. If I'm to fight the good fight, I'm not going to fight alone. You called me a coward for wanting to go; won't you reward me for deciding to stay? And out of unhappiness happiness will come. You must stay, Gloria; our place is here."

"Our place!" she echoed, and then was silent for a little time, her head upon his shoulder. He held her tightly, she could not escape. The feeble efforts she had made to break from him were now abandoned as she thought more and more upon his words. At last she looked up at him and smiled.

"Yes, Joe, our place is here, and our happiness. Right in this room all my old pride died. But there has been born a new pride, a pride in you and in me, and in what it has been given us to do."

The tears came into her eyes as she thought of what they were to each other. "You are all I have in the world, dear; you are my world. Make me always proud that I am your wife."

Wright drew her closer to his heart and kissed her. And there in the shelter of his arms she rested. Peace had come to her.

(The End.)

Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., June 30, 1913.
 All the butter prices have remained unchanged on most grades, the general market has a weaker tone and a decline is looked for. Strictly new fresh eggs were in limited receipt and commanded high values. Other grades are slow and dull. Poultry was quiet at unchanged figures. Vegetables sold slowly at steady prices.

Butter.—Western creamery, 29c; extras, 27c; firsts to seconds, 25c to 26c; special brands, 28c to 30c; nearly white, 30c.
 Cheese.—New York full cream, 17c to 17½c; skims, 8½c to 11c, according to quality.

Eggs.—Candled, 24c to 27c; extras, 22c. Current receipts at \$5.70 per standard case. Poultry.—Old, 10c to 12c; old roosters, 12c; spring chickens, 20c to 25c; ducks, 14c to 15c; geese, 20c to 25c.

Dressed Poultry.—Western fowls, 18c to 19c; roosters, 13c; chickens, 15c to 16c; squabs, \$3.50 to 4.50 doz.

Vegetables.—White potatoes, choice, \$1.75 to 2.00 bu.; Onions, \$1.10 to 1.15 bag. Cabbage, \$1.75 to 2.50 crate. Lettuce, \$1.25 to 2.00 basket. Cucumbers, \$1.00 to 1.25 basket. Celery, 40c to 50c box. Spinach, \$1.25 to 2.00 box. Kale, 25c to 30c box. Egg plant, \$1.00 to 1.50 box. String beans, 20c to 25c basket. Peas, \$1.50 to 2.00 basket. Peppers, \$1.50 to 2.00 carrier. Tomatoes, \$1.25 to 1.75 carrier. Watercress, \$2.00 to 3.00 100 lbs. Asparagus, 60c to 1.00 box. Beets, \$2.00 to 3.00 per 100 lbs.

Fruit.—Apples, choice varieties, 25c to 75c hamper; \$4.00 to 5.00 bu. Strawberries, 15c to 22c qt. Blackberries, 6c to 12c qt. Cherries, 6c to 14c lb. Gooseberries, 5c to 7c qt. Currants, 10c to 14c qt. Peaches, \$1.00 to 3.00 carrier.

Hay and Grain.—No. 1 timothy, new, \$16.00 to 17.00; No. 2, \$14.00 to 15.00; No. 3 do, \$11.00 to 12.00. No grade, \$8.00 to 9.00. Clover mixed, No. 1, \$12.50 to 13.00; No. 2 do, \$10.50 to 11.00. No. 1 tangled rye straw, \$14.50 to 15.00; No. 1 wheat straw, \$8.50 to 9.00; No. 1 oat straw, \$9.50 to 10.00. New shelled corn, No. 2 yellow, 70½c to 71c; No. 3 yellow, 69c to 70c. Winter milling wheat, \$1.00 to 1.03; No. 1 northern, \$1.03 to 1.05; No. 2 do, \$1.02 to 1.04. Standard and white, 40c to 47c; No. 3 white, 45½c to 46c.

Hides and Skins.—Steers, abattoir, 15c to 16c; do. country, 13c to 14c. Cows, abattoir, 14c to 15c; do. country, 12c to 13c. Hogs, abattoir, 12c to 13c; do. country, 10c to 11c. Catskins, Nos. 5 to 12 and up, \$1.35 to 2.45; do. skins, 13c to 14c.

Seeds.—Timothy, \$2.65 bu.; clover, white, \$2.50; do. crimson, \$5.00; do. mammoth, \$15.25; do. sweet, \$13.00; do. alsike, \$14.75; red top, per bu., \$5.00; \$7.00 to \$7.50; Canada red, \$5.00; Canada red, \$5.00; vetch, \$8.25; rye, winter, \$1.50; spring, \$2.00; soy beans, \$2.50; barley, \$3.25; millet, \$1.50; corn, \$2.00; \$3.25; millet, \$1.50; oats, \$1.20.

Coffee.—Rio, 78c, 9½c; Santos, 48, 11½c. Mild Coffee.—Cordova, 16 to 16½c. Provisions.—City beef, smoked, and air-dried, 23c to 26c. Beef hams, 34c to 35c. Pork, family, \$22.00 to 23.00 bu. Ham, cured, 15c to 16c; skinned, 15½c to 16c; smoked, 15c to 21c. Other hams, smoked, city cured as to brand, 16c to 21c. Prime shoulders, 10c to 11c; do. smoked, 13c to 13½c. Bellies in pickle, 15c to 17c. Breakfast bacon as to quality, 20c to 25c. Lard, refined, 13½c to 12c; do. in tubs, 11c to 12c; do. kettle-rendered, 11c to 12c. Tallow, prime city, 6c to 6½c; do. country, 5c to 6c. Dark, 5c; do. cakes, 7c.

Sugar.—Cut loaf, \$25.25 cwt.; cubes, \$4.45 to 4.70; powdered, \$4.50 to 4.75; granulated, \$4.40 to 4.45; standard granulated, \$4.45 to 4.50; crystal A, \$4.45.

Flour.—For 100 lbs. in wood, winter clear, new, \$4.15 to 4.40; do. straight, new, \$4.50 to 4.65; favorite brands, \$5.25 to 5.50. Rye flour, Penna., \$3.50 to 3.75.

BALTIMORE PRODUCE

Baltimore, Md., June 30, 1913.
 Flour was quiet in Baltimore wholesale markets. Wheat was quiet, closing 3c lower. Corn closed dull. Hay and butter were steady and eggs were firm. Poultry continued steady and fruits and vegetables moved easily at steady prices.

Butter.—Creamery, fancy, 30c; do. choice, 29c; prints, 28c to 29c; blacks, 28c to 29c; Maryland and Penna. rolls, 20c to 21c; prints, 20c to 21c. Process, 25c to 27c.

Cheese.—Flat, 17c; Paisley, 18c to 19c. Eggs.—Md. and Penna. firsts, 19c; western, 20c; southern, 19c.

Live Poultry.—Hens, 17c; chickens, 17c to 18c; old roosters, 11c; ducks, 13c to 14c. Geese, 14c to 15c. Guinea fowls, 20c to 25c. Dressed Poultry.—Turkeys, 24c to 25c; chickens, 20c to 21c; roosters, 11c to 12c; ducks, 20c to 22c; geese, 11c to 17c.

Vegetables.—Potatoes, white, 30c to 40c bu. Sweet, \$1.00 to 1.50 bu. Cabbage, \$1.25 to 1.50 crate. Onions, 65c to 80c box. Lettuce, 10c to 40c. Egg plant, \$1.00 to 1.50 crate. Peppers, \$1.50 to 2.00 crate. Squash, 40c to 50c basket. Spinach, 30c to 60c box. Cucumbers, 75c to \$1.00 per crate. Beans, green, 10c to 15c. Turnips, 10c to 15c. Cauliflower, \$2.50 to 2.75 bu. Horseradish, \$1.50 to 1.65 box. Beets, 20c to 30c. Asparagus, \$1.25 to 1.50 doz. Green corn, 75c to \$1.00 crate.

Fruit.—Apples, new, \$3.00 to 3.50 bu.; 50c to \$1.00 bu. Strawberries, 7c to 10c qt. Blackberries, 5c to 10c qt. Raspberries, 3c to 4c qt. Peaches, \$2.00 to 3.00 crate. Raspberries, red, 12c to 15c qt; black, 6c to 8c qt. Raspberries, 10c to 12c qt. Florida, 75c to \$1.00 crate; Georgia, \$1.50 to 2.25 crate.

Grains.—Wheat.—No. 2 red western, \$1.03½; spot, \$1.03½. Corn, spot, 65½c; contract, 65½c. Oats, No. 2 white, 46c; standard white, 45½c; No. 3 white, 44½c. Rye, 60c to 64c.

Hay and Straw.—No. 1 timothy, \$17.50. No. 2 timothy, \$15.00 to 16.00. No. 3 do, \$12.00 to 13.00. No. 1 tangled rye straw, \$10.00. No. 1 wheat straw, \$8.00.

Milled Flour.—Spring bran, \$2.00 to 2.50. Middlings, flour in white, \$25.00 to 26.00; western middlings, \$23.00 to 23.50; city mills midds., \$23.00 to 23.50.

Pennsylvania Farmer

July 5, 1913.

BUFFALO PRODUCE

Buffalo, N. Y., June 30, 1913.
 Butter.—Quiet. Creamery, choice, 29c; choice dairy, 25c to 26c.

Cheese.—Firm. Fancy, 16c; good, 14c to 15c. Eggs.—Firm. State, fresh, 21c to 22c; western, 19c to 20c.

Poultry.—Steady. Poultry, 16c to 18c; broilers, 25c to 28c; ducks, 16c to 18c; geese, 15c to 17c; turkeys, 20c to 21c; old roosters, 12c to 14c.

Vegetables.—Potatoes, easy. Home-grown, 45c to 50c bu. Cabbage, \$2.00 to 2.50 crate. Onions, 40c to 50c sack. Beans, green, \$1.25 to 1.75 lamp. Turnips, 90c to \$1.00 bu. Celery, 80c to \$1.00 doz. Spinach, 40c to 50c lamp.

Beans.—Quiet, steady. Marrow, fancy, \$3.35 to 3.40; medium, \$2.80 to 2.90; red kidney, \$2.00 to 2.25.

Fruit.—Apples, \$4.00 to 4.75 bu. Honey.—Firm. No. 1 fancy, 16c to 17c; No. 2 new, 13c to 15c; dark, 12c.

Hay.—Firm. Timothy, choice on track, \$16.00; No. 2 do., \$15.00 to 15.50; No. 3, \$14.00 to 14.50; light mixed, No. 1, \$13.00 to 13.50; rye straw, \$10.00; oat and wheat straw, \$8.00 to 9.00.

Feed.—Steady. Spring bran, \$25.00 ton. Standard midds., \$21.00. Corn meal, \$25.50. Gluten, \$23.75. Hominy, \$25.00. Oilmeal, \$27.50. Cottonseed meal, \$32.00.

NEW YORK PRODUCE

New York City, June 30, 1913.
 The butter market has been weak, with prices fluctuating and for the most part a little lower. Butter arriving in good quantities, due to heat. Eggs are irregular. Some dealers using storage product. Dressed poultry demand is moderate. Vegetables are lower in some cases over last week.

Butter.—Creamery firsts to extras, 25½c to 26½c; 2d to seconds, 23c to 25c; factory, 21c to 23c; state dairy, 23c to 24c; packing stock, 19c to 21c; process, 24c to 25c.

Vegetables.—Potatoes, choice, 15c to 16c; do. common to fancy, 12c to 14c; skins, 3c to 10c.

Eggs.—State and nearby, 23c to 28c; fresh gathered, 14c to 24c; mixed, 19c to 24c. Dressed Poultry.—Turkeys, dry, 18c to 19c; chickens, 15c to 16c; ducks, 10c to 12c; old roosters, 12c to 14c; 15c to 20c; waterfowl, 19c to 22c.

Live Poultry.—No prices listed as yet. Grain.—Easy. Wheat, No. 2 red, 96c; Oats, standard white, 47c to 47½c.

Vegetables.—Potatoes, new, \$1.25 to 1.62 per bu. Cabbage, 50c to \$2.00 crate. Green beans, 25c to 75c basket. Carrots, 75c to \$1.25 box. Cauliflower, 10c to 30c doz. Lettuce, 50c to \$1.00 bu. Squash, 25c to \$1.00 basket. Horseradish, \$1.00 to 3.00 cwt. Parsnips, 50c to 75c doz. Turnips, 15c to \$1.25. Watercress, \$1.00 to 1.50 per 100 bunches. Peas, 50c to \$1.25 box.

Fruit.—Apples, old, \$1.75 to 6.00 bu., according to variety; new, \$1.00 to 2.00 lbs. Strawberries, 50c to 15c qt. Peaches, \$1.50 to 2.50 carrier. Cherries, \$2.00 to 3.00 qt. Raspberries, 6c to 13c qt. Blackberries, 10c to 15c qt. Gooseberries, 7c to 10c qt. Currants, 3c to 5c. Muskmelons, \$1.00 to 2.75 per standard crate.

YORK PRODUCE MARKET

York, Pa., June 30, 1913.
 The weekly market shows the various city markets was, perhaps, about the average. Despite the large display of all reasonable products, the market was listless.

Butter.—Country, 26c to 28c; separator, 32c to 35c. Milk, 5c per qt. Eggs.—Firm, 21c to 22c.

Poultry.—Hens, 15c to 16c; springers, 23c to 24c. Dressed poultry, 40c to 50c each. Vegetables.—Potatoes, new, 15c to 20c; 1/2 doz. Cabbage, 10c to 20c doz. Lettuce, 10c to 15c; heads, 30c to 50c; radishes, 2c to 4c; onions, 20c to 30c; lima beans, 12c qt.; soup beans, 7c to 10c qt.; sweet potatoes, 12c to 15c; 1/2 pk.; lard, 12c to 15c; 1/2 lb.; codfish, 3c to 5c; rhubarb, 3c; asparagus, 20c bunch; string beans, 20c per 1/2 pk.; peas, 8c to 12c per 1/2 pk.

Fruit.—Apples, 30c to 45c a half peck; strawberries, 6c to 10c; cherries, 15c to 20c; box; currants, 10c; raspberries, 6c to 10c.

Retail Grain Market.—Wheat, \$1.12; corn, 75c; oats, 55c; bran, \$1.15 a cwt.; rye, 65c; middlings, \$1.40 a cwt.

Wholesale Grain Market.—Wheat, \$1.02; corn, 65c; oats, 42c; rye, 55c.

WILMINGTON PRODUCE

Wilmington, Del., June 30, 1913.
 The first western cantaloupes have been received and are selling at 20 cents each. Strawberries are about done for. Delaware blackberries are arriving, but the quality is not nearly so good as last year.

Live Poultry.—Hens, 17c; chickens, 17c to 18c; old roosters, 11c; ducks, 13c to 14c. Geese, 14c to 15c. Guinea fowls, 20c to 25c. Dressed Poultry.—Turkeys, 24c to 25c; chickens, 20c to 21c; roosters, 11c to 12c; ducks, 20c to 22c; geese, 11c to 17c.

Vegetables.—Potatoes, white, 30c to 40c bu. Sweet, \$1.00 to 1.50 bu. Cabbage, \$1.25 to 1.50 crate. Onions, 65c to 80c box. Lettuce, 10c to 40c. Egg plant, \$1.00 to 1.50 crate. Peppers, \$1.50 to 2.00 crate. Squash, 40c to 50c basket. Spinach, 30c to 60c box. Cucumbers, 75c to \$1.00 per crate. Beans, green, 10c to 15c. Turnips, 10c to 15c. Cauliflower, \$2.50 to 2.75 bu. Horseradish, \$1.50 to 1.65 box. Beets, 20c to 30c. Asparagus, \$1.25 to 1.50 doz. Green corn, 75c to \$1.00 crate.

Fruit.—Apples, new, \$3.00 to 3.50 bu.; 50c to \$1.00 bu. Strawberries, 7c to 10c qt. Blackberries, 5c to 10c qt. Raspberries, 3c to 4c qt. Peaches, \$2.00 to 3.00 crate. Raspberries, red, 12c to 15c qt; black, 6c to 8c qt. Raspberries, 10c to 12c qt. Florida, 75c to \$1.00 crate; Georgia, \$1.50 to 2.25 crate.

Grains.—Wheat.—No. 2 red western, \$1.03½; spot, \$1.03½. Corn, spot, 65½c; contract, 65½c. Oats, No. 2 white, 46c; standard white, 45½c; No. 3 white, 44½c. Rye, 60c to 64c.

Hay and Straw.—No. 1 timothy, \$17.50. No. 2 timothy, \$15.00 to 16.00. No. 3 do, \$12.00 to 13.00. No. 1 tangled rye straw, \$10.00. No. 1 wheat straw, \$8.00.

Milled Flour.—Spring bran, \$2.00 to 2.50. Middlings, flour in white, \$25.00 to 26.00; western middlings, \$23.00 to 23.50; city mills midds., \$23.00 to 23.50.

Choice sheep \$5.00 to 5.25
 Good wethers 4.50 to 4.75
 Common to medium 2.00 to 4.50
 Extra lambs 7.75 to 8.00
 Good to choice do. 7.50 to 7.75
 Common to medium 4.00 to 6.50
 Cows 3.25 to 6.50

The hog market was steady throughout the week at \$12.00 to 12.25. Choice classes of dressed meats are steady. Trade is normal. Steers, 12½ to 13c; heifers, 11 to 13c; cows, 9 to 12c. Veal calves, 14 to 16c; country dressed calves, 14 to 15c; extra do., 15 to 16c. Sheep, 9 to 10c; extra wethers, 11c. Spring lambs, 14 to 15c. Hogs, 12½ to 12½c.

PITTSBURGH LIVE STOCK

Pittsburgh, Pa., June 30, 1913.
 The supply of good butcher stuff was rather moderate last week, and the general market was about 10 cents higher than the preceding week. Best grades of heifers were about steady, while the plain and light-weight steers were lower. Hogs sold at steady prices. Fresh cows were slow and lower on all grades. There were 115 carloads of cattle shipped Monday. The general market was slow, best grades holding steady, while others and grassy grades were dull to lower.

Food.—Steady. Spring bran, \$25.00 ton. Standard midds., \$21.00. Corn meal, \$25.50. Gluten, \$23.75. Hominy, \$25.00. Oilmeal, \$27.50. Cottonseed meal, \$32.00.

NEW YORK PRODUCE

New York City, June 30, 1913.
 The butter market has been weak, with prices fluctuating and for the most part a little lower. Butter arriving in good quantities, due to heat. Eggs are irregular. Some dealers using storage product. Dressed poultry demand is moderate. Vegetables are lower in some cases over last week.

Butter.—Creamery firsts to extras, 25½c to 26½c; 2d to seconds, 23c to 25c; factory, 21c to 23c; state dairy, 23c to 24c; packing stock, 19c to 21c; process, 24c to 25c.

Vegetables.—Potatoes, choice, 15c to 16c; do. common to fancy, 12c to 14c; skins, 3c to 10c.

Eggs.—State and nearby, 23c to 28c; fresh gathered, 14c to 24c; mixed, 19c to 24c. Dressed Poultry.—Turkeys, dry, 18c to 19c; chickens, 15c to 16c; ducks, 10c to 12c; old roosters, 12c to 14c; 15c to 20c; waterfowl, 19c to 22c.

Live Poultry.—No prices listed as yet. Grain.—Easy. Wheat, No. 2 red, 96c; Oats, standard white, 47c to 47½c.

Vegetables.—Potatoes, new, \$1.25 to 1.62 per bu. Cabbage, 50c to \$2.00 crate. Green beans, 25c to 75c basket. Carrots, 75c to \$1.25 box. Cauliflower, 10c to 30c doz. Lettuce, 50c to \$1.00 bu. Squash, 25c to \$1.00 basket. Horseradish, \$1.00 to 3.00 cwt. Parsnips, 50c to 75c doz. Turnips, 15c to \$1.25. Watercress, \$1.00 to 1.50 per 100 bunches. Peas, 50c to \$1.25 box.

Fruit.—Apples, old, \$1.75 to 6.00 bu., according to variety; new, \$1.00 to 2.00 lbs. Strawberries, 50c to 15c qt. Peaches, \$1.50 to 2.50 carrier. Cherries, \$2.00 to 3.00 qt. Raspberries, 6c to 13c qt. Blackberries, 10c to 15c qt. Gooseberries, 7c to 10c qt. Currants, 3c to 5c. Muskmelons, \$1.00 to 2.75 per standard crate.

BUFFALO LIVE STOCK

Buffalo, N. Y., June 30, 1913.
 There was a light supply throughout all of last week and trade was firm on good butcher products. The market was about the average. Despite the large display of all reasonable products, the market was listless.

Butter.—Country, 26c to 28c; separator, 32c to 35c. Milk, 5c per qt. Eggs.—Firm, 21c to 22c.

Poultry.—Hens, 15c to 16c; springers, 23c to 24c. Dressed poultry, 40c to 50c each. Vegetables.—Potatoes, new, 15c to 20c; 1/2 doz. Cabbage, 10c to 20c doz. Lettuce, 10c to 15c; heads, 30c to 50c; radishes, 2c to 4c; onions, 20c to 30c; lima beans, 12c qt.; soup beans, 7c to 10c qt.; sweet potatoes, 12c to 15c; 1/2 pk.; lard, 12c to 15c; 1/2 lb.; codfish, 3c to 5c; rhubarb, 3c; asparagus, 20c bunch; string beans, 20c per 1/2 pk.; peas, 8c to 12c per 1/2 pk.

Fruit.—Apples, 30c to 45c a half peck; strawberries, 6c to 10c; cherries, 15c to 20c; box; currants, 10c; raspberries, 6c to 10c.

Retail Grain Market.—Wheat, \$1.12; corn, 75c; oats, 55c; bran, \$1.15 a cwt.; rye, 65c; middlings, \$1.40 a cwt.

Wholesale Grain Market.—Wheat, \$1.02; corn, 65c; oats, 42c; rye, 55c.

WILMINGTON PRODUCE

Wilmington, Del., June 30, 1913.
 The first western cantaloupes have been received and are selling at 20 cents each. Strawberries are about done for. Delaware blackberries are arriving, but the quality is not nearly so good as last year.

Live Poultry.—Hens, 17c; chickens, 17c to 18c; old roosters, 11c; ducks, 13c to 14c. Geese, 14c to 15c. Guinea fowls, 20c to 25c. Dressed Poultry.—Turkeys, 24c to 25c; chickens, 20c to 21c; roosters, 11c to 12c; ducks, 20c to 22c; geese, 11c to 17c.

Vegetables.—Potatoes, white, 30c to 40c bu. Sweet, \$1.00 to 1.50 bu. Cabbage, \$1.25 to 1.50 crate. Onions, 65c to 80c box. Lettuce, 10c to 40c. Egg plant, \$1.00 to 1.50 crate. Peppers, \$1.50 to 2.00 crate. Squash, 40c to 50c basket. Spinach, 30c to 60c box. Cucumbers, 75c to \$1.00 per crate. Beans, green, 10c to 15c. Turnips, 10c to 15c. Cauliflower, \$2.50 to 2.75 bu. Horseradish, \$1.50 to 1.65 box. Beets, 20c to 30c. Asparagus, \$1.25 to 1.50 doz. Green corn, 75c to \$1.00 crate.

Fruit.—Apples, new, \$3.00 to 3.50 bu.; 50c to \$1.00 bu. Strawberries, 7c to 10c qt. Blackberries, 5c to 10c qt. Raspberries, 3c to 4c qt. Peaches, \$2.00 to 3.00 crate. Raspberries, red, 12c to 15c qt; black, 6c to 8c qt. Raspberries, 10c to 12c qt. Florida, 75c to \$1.00 crate; Georgia, \$1.50 to 2.25 crate.

Grains.—Wheat.—No. 2 red western, \$1.03½; spot, \$1.03½. Corn, spot, 65½c; contract, 65½c. Oats, No. 2 white, 46c; standard white, 45½c; No. 3 white, 44½c. Rye, 60c to 64c.

Hay and Straw.—No. 1 timothy, \$17.50. No. 2 timothy, \$15.00 to 16.00. No. 3 do, \$12.00 to 13.00. No. 1 tangled rye straw, \$10.00. No. 1 wheat straw, \$8.00.

Milled Flour.—Spring bran, \$2.00 to 2.50. Middlings, flour in white, \$25.00 to 26.00; western middlings, \$23.00 to 23.50; city mills midds., \$23.00 to 23.50.

NEW YORK LIVE STOCK

New York City, June 30, 1913.
 Cattle receipts for the week were 3,686 head. The market was lower. Steers \$6.50 to 8.90
 Hogs 5.25 to 7.25
 Cows 3.25 to 6.50

The hog market was steady throughout the week at \$12.00 to 12.25. Choice classes of dressed meats are steady. Trade is normal. Steers, 12½ to 13c; heifers, 11 to 13c; cows, 9 to 12c. Veal calves, 14 to 16c; country dressed calves, 14 to 15c; extra do., 15 to 16c. Sheep, 9 to 10c; extra wethers, 11c. Spring lambs, 14 to 15c. Hogs, 12½ to 12½c.

NEW YORK MILK QUOTATION

The wholesale price of milk is considered to be \$1.46 per quart for class C; class B, \$1.56. Official quotations have been abolished.

TOBACCO MARKET

Timely rains have enabled the completion of transplanting operations, and now that the crop is in the field, cultivation will be needed. The price of success in tobacco growing. With plenty of moisture at present and a practical assurance of favorable temperature, the industry and skill of the grower will make possible the production of a good crop, which must be equipped and safely housed from the elements within the next 90 days.

In the York section much tobacco land has been planted in potatoes, owing to the discouraging price of recent years. In the future, with the exception that quite a percentage will be supplanted with Havana. It should be borne in mind that this variety requires more careful attention than the native growth, and that if not carefully cultivated, etc., the returns may fall below that of the variety generally grown.

We note that leaf dealers observe that growers show a tendency to put "more thought" into their tobacco work. This is surely an encouraging feature, and when growers have learned to put more thought into the grading, marketing and especially to the marketing of their tobacco, they will for the first time be in position to receive a good return from the plant which they have so carefully cultivated.

The stock market was fed on Sundays, but don't you know, the horses when working are given the extra feed, but when not working are turned out on the grass and left to find their own grub. Somehow, the stock a woman has to feed always looks for something extra

Veterinary

(Conducted by W. C. Fair, V. S.)
(Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; no name and address of writer. Initials only will be published. When reply by mail is requested, it becomes private practice, and a fee of \$1 must accompany the letter. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, would make one of the most valuable medical symposiums a farmer-stockman could obtain.)

Corns.—I always read the veterinary department of Pennsylvania Farmer and believe it worth many times the subscription price of the paper. I have a horse that is troubled with corns. He does not go lame, but points as if he suffered some pain. What kind of shoe would you advise and what shall I do in line of treatment? G. L. W., Espsville Station, Pa.—Corns are usually the result of undue pressure from shoe, either by allowing shoes to remain on too long, or heels being left too high, or foot not being made level. Rubber pads, a three-quarter shoe or a bar shoe, and heels left low are the best methods of shoeing. Apply lanolin to hoof, once a day.

Lousy Horses.—I have two horses that are lousy and have little sores that are not easily noticed. I have applied insect powder and Scotch snuff, which seems to give temporary relief. I also have a colt that has not thrived for some time. I feed her 4 quarts of ground oats and 2 quarts of bran with timothy hay, two or three times a day. B. S. R., Oil City, Pa.—Put 4 or 5 ounces of crushed stavesacre seed in a gallon of boiling water. Let it simmer for 2 or 3 hours; then strain and fill to original gallon. Then apply to lousy horses, 3 times a week. Two or three applications will be all that is required to kill the lice. Let your horses run on grass and give a tablespoonful of tincture gentian at a dose, 3 or 4 times a day. The colt should be salted often and groomed, twice a day.

Sleeps Standing.—I bought a 12-year-old horse that appears to go to sleep standing, and falls down in stable. He also takes a nap in the harness and occasionally falls. Is there anything I can do to remedy this habit? F. M. F., Washington, Pa.—Nothing can be done in line of medication that will give satisfactory results. However, I have known this difficulty to be overcome by furnishing a box stall, instead of an open stall. Then the horse would lie down and sleep. His bowels should be kept open, and he will be benefited by giving him a teaspoonful of bromide potash at a dose in feed, 2 or 3 times a day.

Twin Heifer Calf as Breeder.—I have a fine cow which gave birth to twin calves recently; one a male and the other a female. I would like to keep the heifer for breeding purposes, but had been told that she would not breed. If so, I would like to know it. W. D. S., Port Royal, Pa.—You were rightly informed, for twin heifers seldom if ever breed.

Udder Infection—Bloody Milk.—I have a cow that seems to be losing the use of her teats. Last year one teat went dry, now she seems to be losing another. I also have a cow that gave bloody milk from left front teat, seemed to get over it, then left hind teat became affected. I would like to know what is causing it. J. C. B., Narcessa, Pa.—The infection is often transferred from one teat to another by the milker. Consequently, after the infection reaches the quarter, it is very difficult and almost impossible to restore the udder and teat to its normal condition. In its present condition you will obtain fairly good results by applying 1 part iodine and 20 parts fresh lard, 2 or 3 times a week. Give her a dessertspoonful powdered nitrate potash at a dose in feed, 2 or 3 times a day. Your other cow bruises udder by coming in contact with some hard substance. Remove the cause.

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PENNSYLVANIA FARMER, 214 South 12th Street, Philadelphia, Pa.



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50 CENTS A YEAR.

Irrigation on Poor Soil.

Charles W. Skinner, inventor of a popular system of overhead irrigation, is giving a practical demonstration of the value of irrigation on his home farm. He came to New Jersey and purchased 30 acres of land in Gloucester County. He cleared and irrigated 10 acres and had it under cultivation last year. It was said of the land that it was so poor that a turtle would starve to death getting across it, trying to get somewhere to find something to eat. This was the opinion of some of the natives, but Mr. Skinner had some ideas which he expected to work out on this land; and the first season told that he was doing it.

The 10 acres which were first cleared had not been under cultivation for 34 years. It was rested and ready to respond to the proper treatment. Land needs head work as well as hand work, and this man had an active brain as well as hands. He believes in giving the land plenty of food and water, and the acres in return give back wonderful crops. He started with a heavy application of manure from a near-by city. Celery seed was sown in February, and the plants put in the field the last of April and first of May. This celery was sent to market the last of June and first of July. It was grown in double rows, one foot apart, the double rows being 14 feet apart, with the space between the celery planted in another crop.

Most of the 100,000 plants were mulched with manure direct from the ear from a near-by station. The team and wagon could be driven astride the double row of celery, the manure thrown off and placed between and around the plants by hand. Some of the celery was mulched with refuse from potato and tomato crops. The celery thus mulched and with rain and plenty of irrigation did well. The varieties grown were Winter Queen, Giant Pascal, Snow White and Golden Self Blanching.

The one-half acre of Bonnie Best tomatoes were also mulched, as the soil was sandy and believed to be too poor to grow weeks. However, with the manure mulch and plenty of water, the tomatoes yielded almost ten tons on the half acre, and a fine crop of radishes and good lettuce was raised after the tomatoes. The big Boston lettuce and radishes were sown at the same time. Stowell's Evergreen corn was planted three and four feet apart, and mulched and irrigated. Everything on the cleared land is covered by the irrigation system. After the corn was

cut, a fine crop of lettuce was raised on the cleared land. There was one acre in potatoes, Irish Cobbler and Early Fortune, 28 inches apart in the rows. The yield was 400 bushels of prime potatoes. Two-thirds of an acre of red onion seed was sown in April and taken off in August. Celery plants were put between the rows in July. A crop of endive was also grown. It was banked and bleached, and sold for 40 cents a pound. It averaged about one-



MR. SKINNER'S FARM HOME, GLOUCESTER CO., N. J.

fourth pound to a stalk. In a dry season the "thrip" often ruins an onion crop. This was overcome by the use of nitrate of soda in solution, put on thru the irrigation system. One of the prettiest crops was the cantaloupes, and of as good quality as Jersey ever produced. There were 48 rows of cantaloupes, 48 hills in a row, and 2,800 baskets were sold. A good leaf growth



MR. SKINNER AMONG HIS CANTALOUPE ON HIS FARM IN GLOUCESTER CO., N. J.

is necessary for a sweet cantaloupe, and the effort was to produce this growth. The aim was for quality, and not for quantity. The future development of agriculture in the East lies in the utilization of every resource in which irrigation is an important factor. We know what irrigation will do. We need now to study the systems and apply them where suitable conditions can be found.—C. J. S.

Recreation For Summer.

The farmer's life is somewhat isolated. He hasn't the social opportunities that his city cousin has, and for this reason he must try and overcome this condition somewhat. Unless he realizes the effect which this isolated condition is sure to produce, and guards against it, the effect is sure to grow upon him, and he will lose his desire for society, he will lose his desire for mingling with his fellow men, and he will lose his importance and his influence to a greater or less degree as a citizen and a man of influence in his community.

A city man, too, must consider this proposition. He, too, can become a recluse unless he guards against it, and it demands good judgment upon the part of any man to know just how much of an effort he should put forth in this respect, because pleasure and social functions should not cause one to neglect business. The old saying is, "Business before pleasure," and yet this should not be literally interpreted, because, if one always puts business before pleasure, there would be no pleasure. There is enough business on hand for everyone if they attempt to do it, so that it would exclude the pleasure entirely, and yet the average person is so inclined to partake of pleasure and of recreation that the old saying has become a truism, and people even who believe in this old saying of business before pleasure, realize that the desire for pleasure is so strong with most people that it is necessary to keep this truism ever in mind else one neglects his business for the pleasures and recreations of life.

Unfortunately, the outing season, that is, the natural outing season, comes at the time of the year when the farmer is busiest. We must make hay while the sun shines. We must plant corn when it is the time of the year to do that work, and we must harvest the crops when they are ripe. This all comes at the time of the year when one longs to be at the lake or take some pleasure trip. And it comes at the time of the year when the city business man can best afford the time for this leisure. In the winter time the city business man feels that that time of the year is his harvest, and he endeavors to apply himself strenuously to business. When warm weather comes, his business naturally falls off because the farmer's business begins.

That is the time for the business man to take his vacation, and fortunately it comes at the time of the year when he can get his outing with the most pleasure. But it is just the reverse with the

farmer. It is practically business suicide for the farmer to attempt to leave his farm at such a time, because if he does he neglects his business; he can't help it. The farmer ought to be and must be, a philosopher on this question. He must realize that it is his duty to attend to business at the time when the business demands it, and he must cut short his days of pleasure and recreation in the summer time and feel that his time for recreation is in the winter time when Nature, so far as he is concerned, stands still.

I don't want my words to be construed to mean that the farmer should work every day of the summer. He probably can well afford to take a day off now and then, or an evening, but to take an extended vacation is poor business to say the least. Even the farmer who is fore handed and who has the means and does not have to do much physical work upon his farm, simply to give it general supervision, can not afford to be away from the farm for any considerable length of time during the summer. If he does, his business gets away from him.

Many a man has tried to do the business part and much of the physical labor of farming and keep his end up in society at the same time. This is absolutely impossible. It has been the ruin of more than one man, and many of the most promising young business men fall by the wayside because they attempt to do this. They can not be a success in society and a success in business at the same time, and neither can the farmer. And so, during the summer time, if the farmer attempts to take part in all the social functions, if he is a member of a great many of the secret societies and farmers' organizations, if he attempts to carry this work on regularly and systematically and do his best at it to keep up in it, he must figure that he will neglect his business—farming. It is impossible for the same man to do both these at the same time and make a success of each. He must choose which he will do, and therefore, the good business man, and consequently the good farmer, will plan to forego as much summer social duties and recreation as possible, and attend strictly to his business.—C. C. T., Luzerne Co., Pa.

NEW YORK CROPS BELOW NORMAL

Damage to crops by frosts and by an unusual drouth, amounting to many thousands of dollars, are reported from nearly all sections of New York state. Thruout the Adirondack counties and those bordering on Lake Ontario, the frost has been particularly severe. Late frosts extended over a period of a fortnight and affected fruit, vegetables and corn especially. Lack of rain has left pastures bare of fodder and has affected seriously everything raised on farms.

The hay crop in Albany, Rensselaer, Schoenectady, Saratoga, Fulton and Montgomery counties was extremely light, due to the drouth and the work of an insect not greatly harmful until this year. In these counties the rye crop is unusually good, but fruits and vegetables are injured seriously. It seems to be an off year for apples. In Otsego, Herkimer, Madison and Oneida counties, the principal crops of which are hops, hay and potatoes, hops were severely hurt by the frost, and, other conditions remaining good, the yield will be large.

Experts from the state experiment station at Geneva report that the dreaded blue mold, which made its first appearance in Oneida County two years ago, is again noticeable, and the growers are advised to spray liberally with sulfur. The hop crop and the potato

crop will be far below the average. In Schoharie and Delaware counties the drouth has been severe. Hops, the second leading crop in Schoharie, were killed to a great extent. Apples are almost an unknown quantity. Strawberries and raspberries were ruined by the frost. From the farmers' viewpoint, the outlook is discouraging.

S. Wright McCollum, one of the most prominent growers in western New York fruit belt, reports that apples will be light this year. The prospects are for less than half a crop. He says: "It is an off year for Baldwins, and few trees showed any blossoms. Greenings will show even a lighter yield. The Kings are in the best shape. Peaches will not be as heavy as last year, but the crop will be fair. Grapes were damaged seriously, but the falling from the normal crop will be less than 25 percent. Pears will be the banner product in Niagara and Orleans. The crop will be heavy, especially in Bartlets. Quinces were almost wiped out by the frost. Some varieties of cherries are showing a full yield, but others are a failure."

The apple crop is lightest in the rich belt along Lake Ontario. The unusually cold weather of mid-June did not do much damage, but the frost of May 12 came at a time when the buds could not withstand it. The frosts of June in Chautauqua and other grape-belt counties did not materially damage the grape crop. The crop there last year was about 7,500 cars. Vineyard men are of the opinion that the grape crop will be smaller than last year, but that the fruit will be of a better quality, and the producer will receive practically as much as a year ago for his product.

In Broome, Chenango, Cortland, Thompsons, Tioga, Chemung and Delaware counties, farmers are suffering from both drouth and frost. Owing to drouth, pasturage for cattle has been slim. The potato crop will be very light. In the lowlands the outlook for oats is fair. On the hills oats in many cases scarcely will be worth harvesting. The farmers are discouraged.

Cold weather delayed the planting of crops in Clinton County to such an extent that when frost touched the higher points little damage was done. The prospect for the hay crop is excellent.—D. T. H.

NEW JERSEY FRUIT AND CANNING INDUSTRY

According to the annual report to Ex-governor Woodrow Wilson of the New Jersey State Bureau of Statistics, the fruit and vegetable canning industry of the state last year had a product of 68,989,057 pounds, or more than 34,000 tons; employed 4,766 persons; paid \$475,933 in wages; had a capital of \$837,064 invested; and the total selling value of all products was \$2,173,567. Compared with the previous year, the wages paid show an increase of 23.7 percent, and the selling value of product an increase of 25.8 percent.

The fruit pack of the season was as follows: Apples, 194,004 pounds; blackberries, 1,689,096 pounds; strawberries, 842,676 pounds; cherries, 202,800 pounds; pears, 8,411,748 pounds; pineapples, 108,240 pounds; raspberries, 18,804 pounds; total, 11,467,368 pounds.

The vegetable pack showed a total of 57,521,659 pounds, as follows: Tomatoes, 36,229,333; peas, 3,373,576; lima beans, 10,013,400; pumpkins, 2,249,772; squash, 1,340,364; rhubarb, 1,082,028; sweet potatoes, 1,589,724; beets, 29,592; spinach, 912,084; okra and tomatoes, 23,712; okra alone, 7,596; tomato pulp, 665,448; miscellaneous, 5,040.

The total number of canneries was 34, of which 13 were in Cumberland

County, 12 in Salem County, 2 each in Cape May, Gloucester, Mercer and Monmouth counties, and 1 in Burlington County.

There is almost a limitless field in New Jersey for the expansion of this important industry, which is of growing importance to both the manufacturing and the agricultural interests of the state, in that with regard to the first, it has created a steadily maintained demand for factory products, such as certain types of machinery, glass jars, metal tops and tin vessels of various sizes; and regarding the second, which is probably the most important, it provides a reliable and profitable output for a wide range of farm and garden products which, without its aid, must, for want of a market, be allowed to perish where they were raised.

In view of the evidently growing disproportion between the supply and demand in the matter of food supplies, and the consequent increase of prices, the importance of the canning industry as a contributor to our reserve stock of food is sure to increase in public estimation.—D. T. Hendrickson, Monmouth Co., N. J.

THE PERENNIAL WEED

There is a good deal of fearsome talk about the impossibility of eradicating such pests as Canada thistles and "pea vines." There is quite a general impression, especially regarding the latter, that cutting merely multiplies these weeds and causes them to spread. We have had experiences with both these weeds, and I am of the opinion that persistent cutting of the leaf growth will kill any plant in existence. Cutting Canada thistles two or three times and then permitting them to get a foot high is not persistent cutting. Every thistle crown must be cut, and it must be repeatedly cut as often as it gets high enough to cut off.

Cutting with a mower does not get the plant low enough, but sufficient leaves remain near the ground to maintain life. Plowing and cultivating does little good, if scattered sprouts are allowed to stand and grow. The only way we have found to kill Canada thistles is to keep them just about as close as if shaved with a razor. We use for this purpose the common garden hoe. In case of a field all run to them, plow, cultivate, and cut the scattered shoots with a hoe. One summer of careful work along this line will do wonders, but if neglected a year or two they recover. The "finishing touches" must be given the second or even the third year.

In case of pea vines, if not possible to turn in hogs and sheep, such as on corn fields, keep the shoots that escape the cultivator cut with hoe; do the work on hot, dry days. If done in wet weather, pull up the shoots and carry them off. After having plowed and harrowed in the spring, it will pay to gather the roots from small patches and carry them away. The main trouble in killing these two pests lies in the lack of persistence. Keep at them all the time, an hour two or three times a week, especially if dry and hot, and small patches may be eradicated before much damage has been done by spreading.—Geo. P. Williams, Delaware Co., Ohio.

FEDERATION OF AGRICULTURAL ASSOCIATIONS

If there is strength in organization there should be more strength in the organization of organizations, or the federation of allied associations and societies. Maine seems to have taken the lead in this matter. Two years ago the agricultural associations of that state were federated and there are 28 in number.

Some of the advantages that have worked out of that federation of associations of allied interests are that the several organizations in the state have become better acquainted with each other's aims and purposes, and a more general co-operation has been made possible. The federation has assisted in impressing its demands, which are the demands of a united agricultural body, on the state legislature and more particularly on the committees of the legislature having to do with agricultural matters, and the combined influence of these organizations has doubtless secured the enactment of some legislation that otherwise might not have been accomplished. The officers of the federation have co-operated with the members of the legislature in giving such information and counsel as those in charge of legislation desired and as the combined farmers demanded.

President Hunton, of the federation, says that the capitalists and business men of the state, as well as members of the legislature, are asking, in the most friendly manner, what the farmers want and how they can assist them, and he believes that it is up to the farmers to speak as one man in answer and thereby accomplish something worthy of their calling. We submit that other states might do well to federate its many agricultural organizations and by that combined influence accomplish more for the common good than to act independently.—Agricola.

ELECTRIC LIGHTS ON THE FARM

L. E. Partch, Crawford Co., Pa., has installed an electric light plant on his farm. In commenting on its efficiency he said: "We prefer our electric lighting plant to an automobile. An electric light plant does not cost as much, and the convenience is one to be enjoyed the year around. We purchased and installed a plant at a cost of a little over \$300, and we would not be without it."

We have a three-horse gasoline engine, located in the barn, and our generator is belted to this engine. While the engine is doing regular duty it will charge the storage batteries. The batteries will stand 1,700 charges, and in the winter we charge them once or twice a week, and in the summer it is not necessary to charge them more than once in two or three weeks. We have lights in all the rooms in our house, and electric light bulbs are scattered thruout the barn.

"The average load of the dynamo is about 20 bulbs, but we rarely use them all. The actual cost is about the same or a little in excess of kerosene, but we have a better quality light, use a great deal more of it, and the convenience more than pays interest and dividends on the investment. It makes possible more efficient work about the barn early in the morning and later in the evening, when the winter days are short, and the danger is much less than with a treacherous lantern.

Better invest three or four hundred in an electric light plant, than to dump it into fake investments, and you will have an improvement that will add dollars to the value of your property, and it will make home a place to live, not merely to stay."—Walter Jack.

Abortion.—Cows lose their calves from a variety of causes. However contagious abortion is very prevalent in dairy herds, and it is well to take no chances with it. Immediately isolate every cow as soon as she shows signs of impending abortion. When she aborts, burn the body of the calf and its membranes. Clean up and disinfect all discharges. Wash the cow's hind parts with a 3-percent solution of creolin. Keep her out of the herd until all signs of discharges have disappeared.

Poultry

THE CARE OF DUCKS

Ducks are steadily growing in popularity on the farm. The fact that the newer breeds do not require running water to thrive has induced those who did not have the facilities with the old-fashioned kinds to add them to the poultry yard. Yet while they do nicely without the bath, if pure drinking water is constantly provided, the daily swim of the mature birds gives added vigor and increased egg fertility. It is their natural exercise, since they can not scratch like the hen. Yet there are probably more ducks now raised on the farm without than with a running stream.

It has been proved, too, that the eggs are a most valuable food asset. In many places they are in good demand, and the idea that they are fine

ter to place it where they can get as much or as little as needed.

Ducks should never be fed with chickens; the character of the food they consume and their manner of eating is radically different from that of chickens. They have no crop, and the food goes directly to the stomach. Soft foods are required, and hard grain, fed sparingly, should always be soaked a few hours before feeding. Give the little ducks plenty of pure water from the first, and in a dish deep enough that they can get their heads in, but yet can not get the plumage wet. A small trough is the usual watering place. They are so greedy with the food that they must drink very often when eating in order to wash the food down. Otherwise there is danger that they will choke.

During the first week the bread and egg fare may be varied with crackers, corn bread, cooked rice and rolled oats. After the first few days a mash of bran, corn meal, ground wheat or middlings, and ground oats with the hulls removed is good, and a little chopped, cooked

for when a hen is used for hatching to take the ducks away as soon as they are hatched, placing in a basket of warm flannel, and keeping near the fire until all the eggs are hatched. The Indian Runner is an exceedingly helpless baby, liable to tumble upon its back and then get crushed, if left in the nest.

Ducks are more free from vermin than most poultry, still no less than four different kinds of lice are enumerated as thriving upon them; and vigilance is necessary, as with all inmates of the poultry yard. Dampness is another enemy, leg weakness often being caused by it. Even after they are old enough to be allowed free run to the creek, they must still have a dry place to sleep. The eggs are laid at night or very early in the morning, and as the duck makes no special nest, but drops them where most convenient, they should not be released in the morning until all eggs have been laid. Clover, cut fine or cooked, alfalfa, cabbage, and cooked turnips, beets and rutabagas are among the foods available in winter.—Bessie L. Putnam, Crawford Co., Pa.

WHY NOT BREED FOR SIZE OF EGGS?

The accompanying illustration shows a White Leghorn hen which has laid 90 eggs since last January, when it first began laying, the average weight of each egg being over two and one-half ounces. The six eggs shown in the picture, which were laid in eight days by this hen, weigh over 15 ounces. Her constitutional vigor is wonderful.

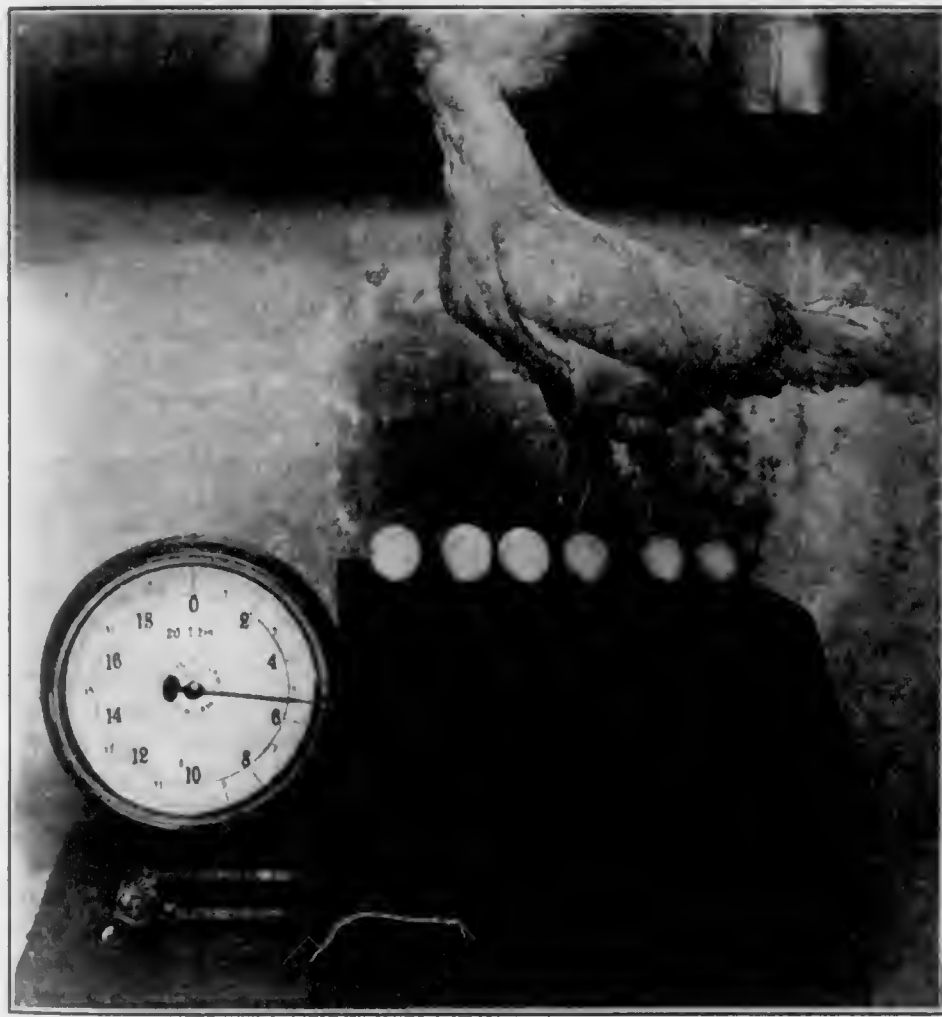
This is the type of hen that every farmer should pick from his flock to breed from, for the time is near at hand when eggs will be sold by weight and not by the dozen. California sells eggs by weight, and it seems probable that other states will follow her example. This of necessity will insure those who have hens laying large-size eggs to reap their reward. This leads to the point where breeding for hens laying a large number of eggs regardless of size will be secondary to the breeding for size of eggs.

For the last year or two the papers have been full of information regarding the North American egg-laying contest, and a few Sundays ago the North American went so far as to say that mating certified layers to sons, or, in other words, mating the sons and daughters of record makers produces record makers. This may be true to some extent, but the University of Maine has carried on experiments along this line for over 10 years, and it finds that mating the sons and daughters of hens laying large numbers of eggs produced daughters of an inferior quality.

Why not try, if this is the case, to breed for size of eggs, for our markets demand that every case of eggs shall weigh 55 pounds? Consequently the breeders who have hens laying small eggs will be obliged to sell their eggs at a lower price, which is the only just way for eggs to be sold.—D. E. Warner, State College, Pa.

WHITE DIARRHEA OF YOUNG CHICKS

Bulletin 74, of the Connecticut Experiment Station at Storrs, Conn., contains a valuable discussion of white diarrhea. It states: "The period of greatest danger from bacillary white diarrhea lies within the first 48 hours. Chicks may acquire the disease, however, up to the time they are four days old. The feeding of sour milk to chicks appears to be a good means of preventing, or at least holding in check, epidemics of bacillary white diarrhea. Hence, whenever it is impossible, or impracticable at once to introduce new



A WHITE LEGHORN HEN THAT PRODUCES LARGE EGGS.

Six Eggs Weigh 15 Ounces.

for table use is growing. While the Pekin, the standard large duck, is almost a continual layer thru the spring and early summer, the Indian Runner is the Leghorn of the ducks, keeping at work almost continuously, save during the moulting season, in August.

As the duck seldom becomes broody, hens or the incubator must be used for hatching. The albumen and shell of the duck egg are thin, and for hatching it should never be more than a week old when placed in the machine. During the few days that it is kept, avoid a damp cellar, keep in a cool place and turn every day. Four weeks are required for incubation.

The thin shell renders the test easily made, the experts in testing hen's eggs may at first incline to discard a duck egg which will prove to be all right.

State bread moistened with milk or water, mixed with one-fourth hard-boiled egg, is a standard food for the first few days, tho like the chick, the duckling needs no food the first day. They must also have grit, even before food is given. A little sand in the drinking water or in a dish kept for the purpose is desirable. Some prefer to mix the sand or grit used with the food; but since the proportion may not be right for the individuals, it is bet-

ter to place it where they can get as much or as little as needed.

Ducks should never be fed with chickens; the character of the food they consume and their manner of eating is radically different from that of chickens. They have no crop, and the food goes directly to the stomach. Soft foods are required, and hard grain, fed sparingly, should always be soaked a few hours before feeding. Give the little ducks plenty of pure water from the first, and in a dish deep enough that they can get their heads in, but yet can not get the plumage wet. A small trough is the usual watering place. They are so greedy with the food that they must drink very often when eating in order to wash the food down. Otherwise there is danger that they will choke.

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stock, sour milk may be an important agent in lessening the danger of great loss from the disease. The sour milk should be fed early; furthermore, it should be kept before the chicks constantly. It should be considered both a moral and legal offense for persons to sell or exchange eggs, chicks or mature stock which came from flocks that they knew to be infected with the germ of bacillary white diarrhea."

CABBAGE WORMS

Will you kindly publish a remedy for cabbage worms? I have been fighting them for the last three years without satisfactory results. I have been advised to use salt, but it does little good.—F. A., Highland, N. Y.

The best general remedy for cabbage worms is the poisoned resin-lime mixture. Directions for making this are given in New York Experiment Station Bulletin No. 144, as follows: Pulverized resin, 5 pounds; concentrated lye, 1 pound; fish oil or cheap animal oil, except tallow, 1 pint; water, 5 gallons. Place the oil, resin and a gallon of water in an iron kettle and heat until the resin is softened. Add lye solution made as for hard soap and stir thoroly. Add the remainder of the water and boil about two hours, or until the mixture will unite with cold water, making a clear, amber-colored liquid. If it is boiled away too much, add enough boiling water to make five gallons. To a gallon of this, in 16 gallons of water, add three gallons of milk of lime or whitewash and a pound of paris green. Spray by hand with a good strong sprayer, reaching all parts of the plant.

Other remedies for the worms are tobacco dust, pyrethrum, hellebore, one ounce arsenical poison in six pounds of flour or in 10 pounds of air-slaked lime, or some other insect powder applied liberally and often. It is important to do the work thoroly while the plants are young, to destroy the early broods.

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Single Comb White Orpingtons, eggs for sale \$1.50 per 12; \$10.00 per 100. Fine pure white birds. The Able strain. Address: ROY CRANDALL, Albion, N. Y.

EGGS—Barred Rocks, bred to lay strains. Runner Ducks, silver cup winners. \$1.50 per setting postpaid. Nelson's Poultry Farm, Grove City, Pa.

1200 BREEDERS FOR SALE
S. C. W. Leghorns Imperial Pekin Ducks
Cocks \$2.00; Hens \$1.00. Drakes \$3.00; Ducks \$2.00
We are offering the above stock to make room for our young stock. These birds are excellent breeders.
Pen-Y-Bryn Farm, F. A. Tiffany, Supr. Box 148, Ambler, Pa.

CHICKS

S. C. W. Leghorns, 7c each. Will ship C. O. D. Will return money for dead ones. Pamphlet on chick feeding free. C. M. LAUVER, Uitchfield, Pa., Box 43.

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Before buying anything of importance, whether by mail or at your stores, check up the article with those of similar nature advertised in Pennsylvania Farmer. This will help you to make an intelligent comparison, and to determine which one will most likely best serve your particular purpose.

Horticulture

A STUDY IN STRAWBERRY VARIETIES

Things of Interest to a South Jersey Trucker

Of the many things of interest on the New Jersey College Farm at New Brunswick, the test plot containing some 48 varieties of strawberries proved the most attractive to me, as a South Jersey trucker, since a large portion of our income is derived from this crop. Pedricktown, in Salem County, where we sell most of our berries, has developed quite a market for a berry that will stand long shipment. The berries are shipped from this station to Boston and other northern markets, some even being sent into Canadian markets. To meet the requirements of this market we have been growing the Gandy, and find it, on the whole, a very satisfactory variety, since our sandy loam seems to meet its rather exacting demands. We have not found it profitable, since this market has developed, to grow early vegetables, since the risk of destruction by late frosts is always

that in order that our state experimental farms may be of service to all the farmers there will have to be one located on every different type of soil throughout the state.

As I went on from variety to variety, looking for a berry that would surpass the Gandy as it grows in the vicinity of Pedricktown, I found several that would surpass it in probably one or two respects, but none that possessed all of its fine points without its faults, or worse ones. For instance, the Manhattan seemed to be a heavier cropper, but the berries were irregular in shape, softer than the Gandy, and did not have the pretty cap of the Gandy. The chambers had pretty caps, but the berries were small. Stevens seemed to be a very heavy cropper, but the berries were wedge-shaped and there was not enough foliage to protect them from the sun. The Sample had good heavy foliage, but small berries. The July was the latest berry; none had as yet (June 5th) ripened. It had the heaviest set of berries that I ever saw, but I fear that it had the fault of most varieties that set a large number of fruit, i. e., small berries.

The Heritage seemed to be worthy of a fair trial. It seemed to be slightly later than the Gandy, and had the rare

so that the berries were protected from the dirt on the one side and the sun on the other. This variety, like the Heritage, has been tried in our community by several growers. It had but one fault, and that was that it was not a prolific plant former, and consequently did not make mat enough to insure a large crop of berries, altho the individual plants surpass those of the Gandy and yield quite as large a crop as the Heritage.

There was one man, however, who had been entirely successful with them. His land had been out to the tide for several years and was coated with a thick layer of sediment. On this ground the Chesapeake were extra prolific plant formers, and covered the ground from middle to middle, so that there was no place for the pickers to walk without stepping on the berries. (I could not tell whether or not they were prolific on this red shale, because all the runners had been clipped off after three or four plants had rooted from each hill.) This neighbor started in to pick these berries at the same time that he did the Gandy, and continued to pick for a week or ten days after the Gandy had finished. Throughout the entire season he received on an average 50 cents per crate more than he did for Gandys grown on the

to my satisfaction, I took a walk about the farm and found many other activities of interest. In one of the buildings they were cutting green alfalfa by means of a steam-driven hay cutter. They intended to mix this ground alfalfa with soil and use it for experimental purposes in the greenhouses. In some benches of the houses they were using prepared humus and in others ground soy bean stems mixed with soil. In the orchard of dwarf apple trees, some varieties of which were loaded with fruit, while other varieties had comparatively little, they were practicing summer pruning in order to induce the formation of fruit buds for next year. Some of the trees were slightly affected with pear blight; all branches so affected were being cut off below the line of disease.

Down at the new cow barn, which was just built during the past winter, they were unloading alfalfa hay by means of a horse-driven hay fork. On one field they had cut and cured some rye, which was too tough to be used for feeding purposes and, of course, at this date (June 5th) too young to have matured grain. Mr. Owen, member of the experimental staff, who was moving the alfalfa hay, said that it was costing them \$16 per month for bedding for their horses alone. In New Brunswick, he said, hay for bedding purposes was selling for \$1.00 per cwt., while the best grade of timothy was bringing but \$24 per ton. Thus he figured that it was paying them better to cut it now and use it for bedding than to have cut it earlier for a poor grade of feeding hay. The ground, he said, was to be plowed and planted to soy beans as soon as the straw was out of the way, so that they would harvest two crops from the same ground, which was their aim whenever they could possibly do so.

In another field they had a luxuriant growth of vetch and rye, which I supposed would have been cut for hay, but Mr. Owen said that they intended to let that mature grain and then thresh it. He said they could separate the plump grains of rye that were fit for sowing from the vetch seed, but that there were no sieves that could separate the broken and small grains of rye from the vetch. This, however, he said, did not matter, as there was always a good market for the vetch, mixed with rye, to be used as a winter cover crop.—New Jersey Trucker.

THE CABBAGE PESTS

Early cabbage plants should be thoroughly hoed for sometime after they are put into the ground. There are few people who deny the value of the hoe, when used on cabbage; but many apparently do not realize the necessity of combatting the enemies of these plants.

One of the foremost and most difficult to subdue of the cabbage foes is the club-foot. When the ground once becomes infected with the germs of the disease, it fastens itself on the plants, causing the juice to exude and the roots to enlarge until there is a disgusting deformity as large as a man's fist, causing the plant to wither and die. I have found the little tubercles of the disease on the roots of plants when first pulled from the bed. Some writers recommend putting a little air-slaked quicklime on the roots of the plants before setting out, to eliminate club-root germs. I have tried it, but can not say for sure that it is a preventive of club-foot. However, liming the cabbage patch would be beneficial, whether it killed the germs of cabbage club-foot or not.

Cut worms are an all too prevalent cabbage pest. Unless it is dealt with at once, setting out a new patch will be labor lost. A little time is required to hunt out and destroy the cut worms, but this is the only effectual way to get

Other Things of Interest

After having looked over the berries



SUMMER WORK IN THE TONOILWAY ORCHARDS, WASHINGTON CO., MD.

The largest mules obtainable are used on this farm.

great, and the competition of southern berries keeps the price of the early berries at a very low figure, except where one has a special retail trade.

So it was with the idea of finding a late berry that would surpass the Gandy that I looked carefully over those 40 varieties. The first thing I did was to hunt up the Gandy, so as to have them as the starting point for my comparison. What did I find but the smallest, meanest and most dried-up looking berries in the whole plot marked Gandy! I thought there must be some mistake; but no, there were the Gandy leaves, and the fruit, altho small and withered on account of lack of foliage to protect it, was none other than the Gandy. I then, for the first time, realized how foolish it was for anyone to plant a large acreage of some one variety of berries simply because some friend, farming a different type of soil, had recommended it to him as being better than any other known variety.

The soil of the College Farm is a red shale. Suppose I had recommended the Gandy to some friend farming this type of soil and he had planted a large acreage to them. I would have felt as if I had robbed him. This effect of soil on varieties surely brings out the fact

combination of a heavy set and large berries. The only fault I have with the Heritage is that the berries are irregular in shape, do not have a showy cap, and are not so firm as the Gandy. However, the size of the berries, combined with the heavy cropping power, make them a very desirable berry. One grower in our neighborhood tried these berries rather extensively last year and he thought they would supplant the Gandy. The fact that they grow so well here on this soil where the Gandy failed, seemed to point to the fact that they might profitably be grown on ground that was too high or otherwise unsuited to the exacting Gandy, and thus be used to increase the area planted to berries without lessening the acreage of Gandys.

The next berry I came to was the prettiest and most promising berry I have ever seen; it was the Chesapeake, a large, conical berry, perfectly symmetrical in shape, topped with a large green cap and studded with bright yellow seeds which, by contrast with the delicate red flesh of the berry, made it far surpass the Gandy in beauty. (The seeds of the Gandy are a dark red.) The stems held the cluster of berries up from the ground, and yet did not protrude beyond the abundant foliage,

same ground, and harvested a larger number of crates than he did from the same area of Gandys. The Chesapeake, too, has a much better flavor than the Gandy; however, flavor is of very little importance in the consideration of a market berry. All that the grower needs to consider is the securing of a variety that will yield a large crop of berries, firm enough to reach market, and still be attractive.

If some of our plant breeders will only ingraft into the Chesapeake the prolific plant-forming character of the Heritage, without destroying any of the good qualities of the Chesapeake, I think strawberry growers will reward him well. While we are waiting for us, I think we can manage to increase the quantity of our output by growing the Heritage on ground too poor for the Gandy, and the quality of the crop by growing the Chesapeake on our richest ground. Whether or not this combination will work out remains to be seen, for above all, I learned by this visit the folly of planting any variety of berries extensively, without first having tested them on the type of land on which we intend to plant them.

Other Things of Interest

After having looked over the berries

rid of them. Some gardeners use the plan of encircling the plant, after it is set, with a piece of stiff paper, pushing the edges down into the ground to protect it against attack.

The green worm is destructive to cabbage when let alone, but is easily combated. These worms when very small can be destroyed by applying strong soap suds, which have been heated before application. Powdered pyrethrum, or "Persian insect powder," dusted on with a rubber bellows, is the method used by most gardeners and is very effective. Cabbage lice are also readily sprayed off with warm soap suds.—J. W. Ingham, Bradford Co., Pa.

HEAD BACK THE TREES

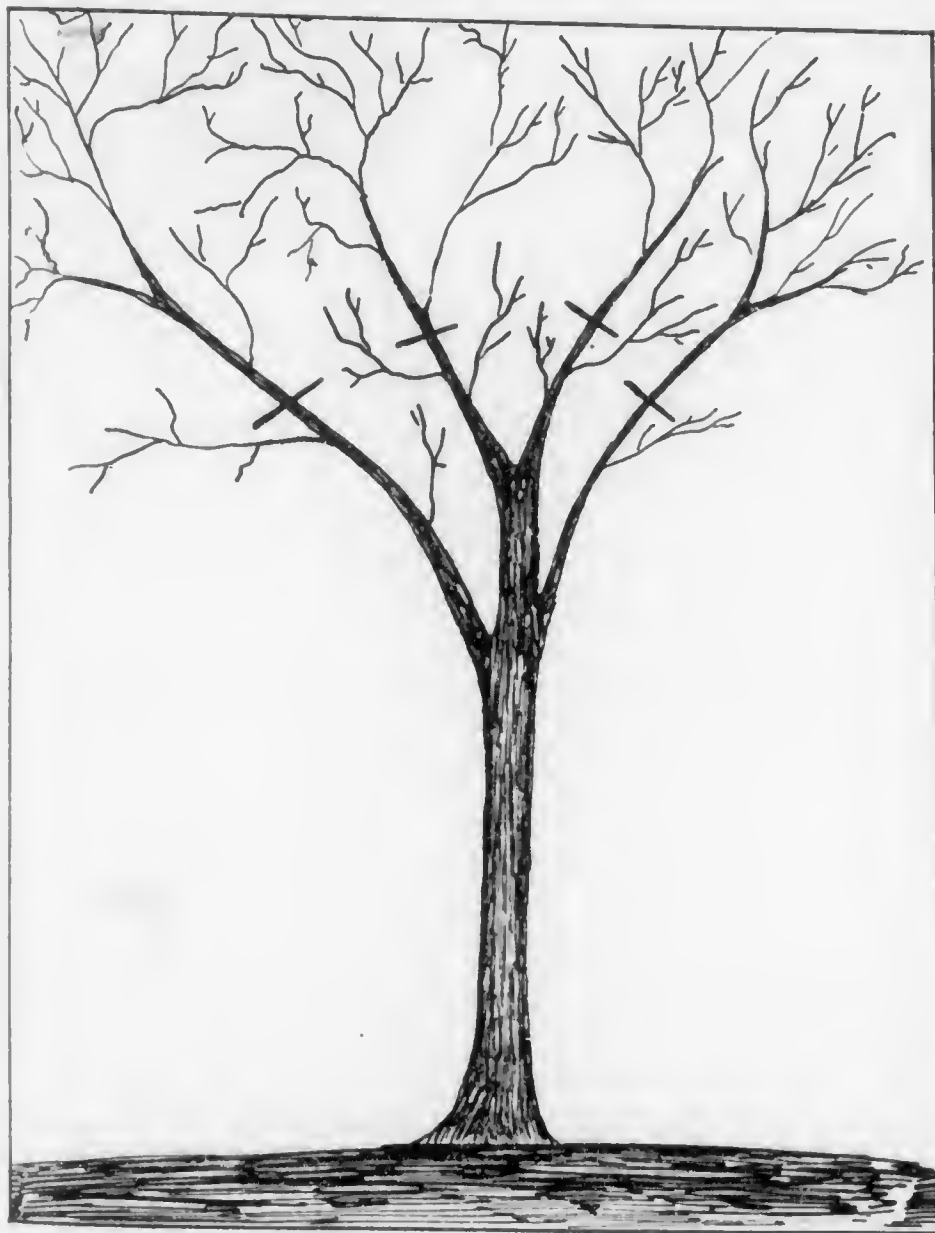
Now is the golden opportunity to shape the trees, as there is little fruit to sacrifice in liberal cutting. Peach and plum trees that have gotten too lofty should now be cut back. We had a splendid showing of stone fruits, but on the night of May 10th the mercury

furnish the much-needed humus to the soil. This crop will serve a good purpose in checking growth of trees in time for the wood to ripen for winter.—D. H. Watts, Clearfield Co., Pa.

AROUND THE GARDEN

Growers are sometimes disappointed because the early cucumber flowers do not set fruit. This may be due to the fact that the plants bear staminate flowers only, for this plant is like the strawberry; there are two kinds of blossoms frequently, and in this case there must be special fertilization, readily effected by the wind or insects when the two kinds of plants are grown together.

Dandelions are now largely cultivated for greens; but if this has been neglected, those who object to the bitter flavor of the wild plant will find it quite appetizing if about three waters are drained off successively as soon as they have reached the boiling point. Sow turnip seed every two weeks for a sue



A TEN-FOOT TREE LOWERED TO SIX FEET.

Cut back your trees in the unproductive seasons.

dropped 10 degrees below freezing, and we lost practically all the fruit. Now we are busy heading our older trees back to a compact and convenient head. Tall and long-limbed trees are entirely too common, and now as the crop is destroyed over a large part of central, western and northern Pennsylvania, farmers have the opportunity to secure

new trees that are 6 to 10 years old and are lofty and long armed, can be lowered as much as one-third to one-half. Then they will throw out a lot of fruit wood for next season's crop and will carry the load within easy reach and without danger of limbs breaking down. The tools necessary to perform this work are a sharp saw, a pair of double-cut clippers (cutting with both bits) and a step ladder. All brush should be removed and burned. Then the soil should be cut up with a disk or spring-tooth harrow, or if very hard, should be plowed shallow. A week or two later the orchard can be sowed to a cover crop, cow-peas or even buckwheat, to hold the snow of winter and

cession of tender roots thruout the season, and thin out to five or six inches apart. It is almost impossible to sow turnip seed thin enough unless one mixes it with sand.

The currant worm is easily routed by sprinkling the bushes with white hellebore when the dew is on. This pest all ways commences at the ground and works upward. If preferred, a liquid application may be made for spraying by using a tablespoonful of the powder to a gallon of water. As the eggs are deposited on the under side of the leaves, this is really the most complete method of eradication, but the treatment will need to be repeated.

Keep the wheel hoe busy. Even the weeds are subdued, the continual stirring and disintegration of the soil is a moisture gatherer more effective than the hose. The yellow-striped cucumber beetle may be hand-picked before sun rise or after sunset. Big if this seems too laborious, dusting with road dust, lime or talcogen dust may serve to keep the pests in check.—Bessie L. Putnam, Crawford Co., Pa.

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Ask Your Soil Doctor Won't legumes and finely ground Raw Rock Phosphate make my soil richer in Nitrogen and Phosphorus? His answer may be the means of doubling your present rate of production, and if he directs you to use Raw Rock Phosphate, write us for circular No. 6 and prices delivered to your station.

WE ARE PIONEERS IN THE GROUND PHOSPHATE BUSINESS CENTRAL PHOSPHATE COMPANY MT. PLEASANT, TENNESSEE.

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Wire Fabric Lawn Fence Better fence at a lower price. A Popular Picket Fence

Send order direct and cut out commissions, local dealers, all middlemen. Ward fences are easy to put up, neat, handsome, stand erect, long lived. Don't waste money on wooden fences. Our handsome wire and picket fences last twice as long.

WARD FENCE Over 100 Styles to Select From

Let us mail you free pattern book to show: ornamental fences for lawns, churches, cemeteries, public grounds, Farm Fences, Farm Gates, etc. Our elastic farm fences are heavily galvanized to avoid rust. They adapt for extreme weather changes. No sagging when it's hot, wires do not snap on cold mornings. Free book shows all our handsome styles of fence. Send for it and choose a fence to suit you at a fair price.

THE WARD FENCE CO. Box 155 Decatur, Indiana

FARMS FOR SALE

Village Berry Farm

98 acres \$1400--Easy Terms

Berries alone gave the owner of this delightfully located farm a profit of \$600 last year; from other sources, his income went to \$250 real money-maker, 10 acres level fields, nearly 100 fruit trees, 41/2 acres strawberries; 6-room house, 26-ft. barn, poultry house and wired runs, over crib, other buildings; maple and walnut shade; owner has made money, want larger farm, going to quick buyer for only \$1400, easy terms; full particulars and traveling directions to see this and a 100-acre farm for \$1000, page 24, "Strout's Farm Catalogue '13," write to-day for free copy. E. A. Strout Farm Agency, Station 1755, Land Title Bldg., Philadelphia, Pa.

YOUR CHANCE TO VIRGINIA BUY A FARM IN

Real estate and facilities for farming are excellent. Land is developing and increasing in value rapidly; often 100% annually. Under proper conditions, land at \$2000.00 will produce \$1000.00 per year. Full details of special home or investment opportunities under \$5000.00 or \$10,000.00. Large investment \$10,000.00. Write to-day for free copy. E. A. Strout Farm Agency, Station 1755, Land Title Bldg., Philadelphia, Pa.

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Successors to A. J. Stevens & Co. Established 1883. Farm, Fruit and Stock Lands. We own 25,000 acres of choice unimproved lands in Gladwin and Clare Counties. Sold on easy payments. Interest 6 percent. Write for information. Gladwin, Michigan.

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OUR NEW YORK IMPROVED FARMS are great bargains at present low prices. Send for free list. MCBURNEY & CO., 309 Baitable Bldg., Syracuse, N.Y.

LIGHTNING RODS 9c PER FOOT

Best Quality Copper—Extra Heavy Cable A better conductor than required by Insurance Companies. System complete with full directions for installing. No agents. For best wholesale price.

Buy Direct—On Trial—Freight Prepaid Pay after you are satisfied. Our rods are securely protecting thousands of farm homes and well protected yours. Write postal for FREE book on lightning protection. Tells plainly just the facts you will be interested in. Ask for it today.

The J. A. Scott Company Dept. X, Detroit, Mich.

10 Cents

Pays for Pennsylvania Farmer every week for three months. Please tell your friends and neighbors. Liberal Terms to Agents.

PENNSYLVANIA FARMER, PHILADELPHIA, PA.

Running Water

In House and Barn at even temperature Winter or Summer at Small Cost.

See how it is done. Write for free circular. Address: J. A. Scott Company, Dept. X, Detroit, Mich.

The Dairy

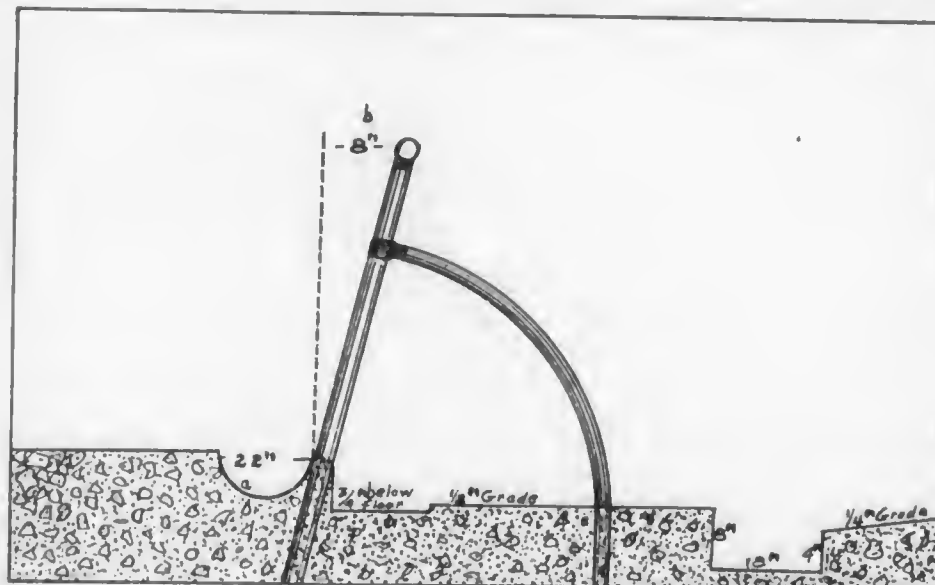
COW STABLE FLOORS AND STALLS

The old wooden stall must go. It is too bulky, obstructs view, light and ventilation, and is not comfortable. It makes many dark, secluded corners in which dirt and all kinds of germ life may be hibernated. They are not convenient for the attendant or milker to work in. The high price of lumber and carpenter work make the wooden stall and trough the most expensive stable fitting today.

Iron and concrete have proven to be by far the cheapest and most sanitary material available for this sort of construction, besides being the most lasting. Since the dairy cow and her products are affected in so many ways by the presence of bacteria, it is necessary that her surroundings be of such material and construction that the presence of bacteria can be controlled without the expenditure of too much time and labor. When the foot and mouth disease visited Pennsylvania a few years ago, there were many stables torn out and burned in order to disinfect the barns visited by the plague. Now, had they been constructed of iron and cement, or concrete, they could have been disinfected effectually without the destruction of property. The surface could be burned over with a painter's torch, if necessary.

The floor and stall plans should be such as do not create corners to catch dirt, or where light can not enter. The accompanying cut gives a plan, tho not at all new, that possesses as many sanitary conditions as any other, and is not expensive. With the help of a concrete worker, any handy farmer can construct this stable with ordinary farm labor, and it should not cost over \$4 per stall above the concrete floor. If the sand and stone can be procured on the farm, the cost of such an equipment will not be high.

The concrete should be made of 1 part cement, 2½ parts clean, sharp sand and 4 parts broken stone or creek gravel, all thoroly mixed. The surface should not be troweled smooth, for it

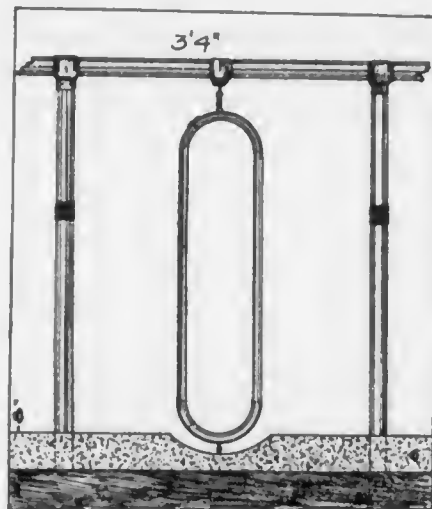


CONCRETE FLOOR AND MANGER WITH GAS-PIPE STALLS.

will be too slippery. It should be leveled with the edge of a board (floated), leaving a slightly rough surface and not at all slippery. The feeding trough and the manure trough should be smoothly troweled, so they can be well cleaned when necessary. The platform on which the cow stands should be 5 feet long for medium-sized cows, with a slight depression, 16 inches wide, under her front feet to catch short litter to insure a cushion under the knees when in the act of lying down.

The manure trough, or gutter, is 8 inches deep below the floor and 18 or

20 inches wide, with a rise of 4 inches on the farther side, to which the stable floor behind cows should slant about 1 inch to the foot. The feeding trough should be 22 inches wide, and the bottom 2 or 3 inches above the platform level. It should not be a regular curve, or a section of a circle, as shown, but should have almost a vertical wall at front arising from the point indicated by the letter A. This shape prevents to a very considerable extent the throwing out of feed into the feeding alley.



GAS-PIPE STANCHION ON CONCRETE FLOOR.

The stalls should be from 3 feet to 3 feet 6 inches wide, according to the size and kind of cows kept. The frame work should be 1½ to 2-inch iron pipe, fitted together with clamp fittings, which makes it very easily erected; much easier and cheaper than the screw fittings used by plumbers. The stall posts should be set back 8 inches at the top, as shown at letter (b) in cut, so that when the cow lies down she comes a few inches forward, away from the gutter. This favors cleanliness and comfort, and it costs no more than the old way of setting them straight.

Now, the points I want to emphasize are, first, that if you buy the pipe, cut, bend and fit it yourselves, using clamp fittings, the cost will be greatly reduced without in any way lessening the quality or value of the job. Second, a stable so constructed of iron and concrete is durable, comfortable, and above all, it is sanitary; and that means much to the dairyman of today.

Below is a copy of the agreement which clearly, and as concisely as may be, states the terms of the contract between the farmers and the banks:

Application and Agreement

The undersigned hereby applies to, Trustees appointed by the two banks of the city and County of Ashland, for the loan of dollars, or a sufficient sum to purchase cows.

The undersigned is the owner of acres of land in the town of County of Wisconsin, acres of which are cleared and improved, of the value of dollars, on which there is a mortgage of dollars, and is the owner of cows free and clear of incumbrance.

The undersigned for value received hereby agrees to pay to said Trustees or their order, on or before three years from this date, the sum of dollars with interest at 7 percent per annum, interest payable quarterly.

THE ASHLAND DAIRY PLAN

Ashland, Wis., has been on the dairy map since about April first of the present year. And this is how it got there. Someone conceived the idea, or adapted it from other sources, that there was a way by which community effort and co-operation could be made to build up the dairy interests of that

section. The business and professional men were interested in the plan, as were also and of course, several farmers, and a meeting was held with the Ashland Commercial Club. The plan was discussed, formulated and launched for trial. Representatives of the two local banks were present, for it was their aid that the farmers needed in order to finance the purchase of dairy stock.

The whole thing may be summarized as a simple community effort to make possible long-term loans to farmers for a cow-purchasing fund which has been loaned to two trustees representing the two banks. The trustees are selected by the banks. They pay 6 percent for the money and loan it to the farmers, who pay 7 percent. Interest is payable quarterly, and the principal is reduced \$3 per cow per month. A group of 20 business and professional men of Ashland, members of the Commercial Club, lend their credit to the farmers and endorse the loans, which gives the banks their security.

While this plan is not new in every detail, it is new in several important particulars. Mr. Roy H. Beebe, who should be credited with being the prime mover for this co-operative plan, puts it this way:

"The Ashland plan of purchasing cows is new to this extent: It is a community effort, backed by the Commercial Club of the city. It is new to the extent that it provides a way whereby national banks can loan money for three years to farmers without requiring constant renewals. The Ashland plan is new to the extent that business men of the city go security for the farmers' loan. It is a community loan of the community money on deposit in the Ashland banks. Nobody ever claimed that there was anything particularly original in a state bank or land company lending money to farmers with which to buy stock. That is an old story. But when 20 business men lend their credit to 20 farmers, buy co-operatively, encourage community breeding and provide a way by which Ashland money can be used for Ashland, then there is a little of originality in the plan and enough of merit to attract the attention of the press and the consideration of bankers' associations. The business men of Ashland who are back of the idea are not bankers and not land men altogether. They are merchants, professional men and manufacturers who have no direct interest in farming."

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Pennsylvania Farmer

July 12, 1913.

You're Losing Money Every Day You Put Off Trying

Larroe-feed

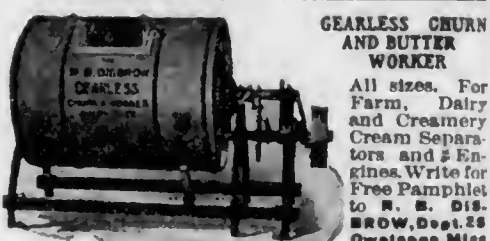
The Ready Ration For Dairy Cows

The only feed that's guaranteed to produce more milk and keep your cows in better condition.

Here's Our Trial Offer

Go to your dealer till he can't supply you. Write us and get as many sacks as you want. Feed two sacks (20 lbs.) to any one cow—watch results two weeks, especially the second week. If Larroe-feed does not please you, take the unused sacks back. No charge will be made for the two sacks used in the trial. We prove the merit of Larroe-feed on sale. You take no risk. Large Free Sample by parcel post on request.

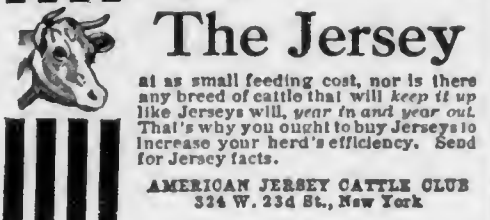
THE LARROE MILLING COMPANY, 621 Cadillac Bldg., DETROIT, MICH.



DAIRY CATTLE

They Keep It Up

There are some cattle that give more milk when they are fresh than a Jersey, but there isn't any breed that gives as rich milk as



at as small feeding cost, nor is there any breed of cattle that will keep it up like Jerseys will, year after year and out. That's why you ought to buy Jerseys to increase your herd's efficiency. Send for Jersey facts.

AMERICAN JERSEY CATTLE CLUB, 324 W. 234 St., New York

CHOICE HOLSTEIN HEIFER CALVES

of exceptional breeding, four months old, well-grown and well-bred.

\$125.00 to \$175.00 each.

STEVENS BROTHERS CO., LIVERPOOL, N. Y.

GUERNSEYS—We are offering a few choice records, and gift choice breeding for sale. As stock of this description is seldom put on the market, this is a rare opportunity to purchase stock either for a foundation herd, or improvement of your present herd. We are also offering a young bull by King Master 1106, dam Golden Kide 2774. Adv. Reg. 1908; Record 1582.35 lbs. milk, 692.5 lbs. butter fat, at 12 years. For circulars giving breeding, etc., address

CHESTERBROOK FARM, Berwyn, Pa.

HIGH GRADE HOLSTEIN COWS. We have on hand 100 choice Holsteins, deep heavy milkers of the choicest individuality and breeding, due to freshen in September and October. Also two and three-year-old heifers, nicely marked and of excellent breeding. Come and see our stock or write your needs before purchasing elsewhere.

F. P. SAUNDERS & SON Cortland, N. Y.

FOR SALE—100 high grade Holsteins that give 50 to 60 lbs.; 25 reg. cows that give 60 to 80 lbs. of milk a day; 6 reg. yearlings; 15 reg. bull calves at farmer's prices. Branch address: Plumly Farm, Fairview Village, Pa. REAGAN BROS., TULLY, N. Y.

AYRSHIRES—We have for sale young Ayrshire bulls, ranging in age from one month to two years old from some of our choicest A. R. cows. All official records. Send for list. SOUTH FARM, Willoughby, Ohio.

DAIRY SHORT HORNS. Registered. Bulls from 4 to 20 months old; also cows for sale. GEO. L. MARVIN, Andover, Ashland Co., Ohio.

Holstein Friesian Cattle. Royal breeding. Old HOME FARM, Center Valley, Pa.

ARE YOU LOOKING FOR A PERMANENT POSITION?

We have openings for a number of good men to represent Pennsylvania Farmer. Require men of integrity and able to furnish references, and those of ability can make good wages. Will give training under experienced men. Men who can furnish their own horse and buggy have an advantage but this is not absolutely necessary. Address Pennsylvania Farmer, Philadelphia, Pa.

July 12, 1913.

sum and interest is fully paid.

The undersigned further agrees to breed the cows so purchased to a registered purebred sire of the same breed as the cows so purchased, and to raise all the heifer calves.

The undersigned further agrees to secure the payment of said sum and interest and the performance of this agreement by a chattel mortgage to said trustees upon the cows so purchased and the following cows in addition, to-wit:

The undersigned further agrees to accept the cows that are purchased and select the same in the following manner: Mr. , or some other person by him suggested, shall buy the cows and buy grade Holsteins for those wanting such, and grade Guernseys for those wanting heifers, and shall ship such cows to Ashland.

The Holstein cows shall each have a number on a card which shall be attached to the cows at Ashland, showing the amount paid for this cow, together with her share of the freight and expense of purchasing all the cows and heifers. Then numbers corresponding to the numbers on the cows shall be placed in a box and each farmer desiring to purchase a Holstein cow shall draw as many numbers from such box as the number of cows he desires to purchase, and take the cows which have a corresponding number on the cards attached to them and pay therefor the amount so fixed on the card.

The Guernsey grade cows shall be assigned in the same manner, also the Holstein grade heifers shall be assigned in the same manner, and also the Guernsey grade heifers shall be assigned in the same manner.

In case the cows or heifers are purchased in carload lots or less quantity for a lump sum, then the person so purchasing shall apportion the amount so paid in lump, to each cow.—J. W. D., New York.

NEW YORK MILK PRICES

The first of July gives us a rather unusual experience in the milk business, altho not without precedent. Earlier in the season the weather was cool, and some butter and a little cheese was made at a few of our shipping plants. A good deal of milk was also condensed, and condenseries are still running to a considerable extent. Recently the cities have made big demands for our milk supply, as the weather is unusually warm. The milk agent on one of our rather short lines has just told me this morning that he is shipping 20 cars a day and that he knows where 10 additional cars of milk may be disposed of in New York City alone if it could be found. He thinks the present demand is to remain as strong for several weeks if the weather continues warm, and remarked, what we all know, that each creamery or station is falling off one to three or five cans a day, since the cows are drying off. Every road is shipping all the milk that can be got hold of, and it is predicted that the City of New York is to see its greatest shortage of a series of years, within a few weeks if the weather continues hot.

There is milk to be had outside the usual supply, from cheese factories and creameries, but the rules of the board of health of the city are such that if the usual style of inspection is made these sources of milk supply will be cut off from shipment. It will be a matter of interest to note how this works out. Some think that the city may let up on inspection in some new territory and thus allow further shipments to come in. Others think that this will not be done, as it is in hot weather that the

so-called "impure" milk of the unspected region is supposed to do the most harm. We shall watch this out.

Right prices would enable dairymen to meet the inspection that is now made, but prices are still too low for any considerable expense in fitting up specially for a short time under the present system of inspection. It is a fair guess that the city may be made to feel the effect of its own indiscretion in the matter of inspection. The city ought to pay something towards upstate inspection by our state department of agriculture, and then turn its attention wholly to inspection within the city.—H. H. Lyon, Chenango Co., N. Y.

ALFALFA HEAVIEST YIELDER

By means of a series of experiments carried on over a number of years, the average yield of alfalfa per acre has been found to be 5.4 tons, whereas red clover yielded only 2.5 tons; timothy 2.3 tons; brome grass, 1.3 tons. Not only does alfalfa yield more than twice the tonnage of red clover, but it also makes a much more valuable feed.

In view of the foregoing, why should

ALFALFA OUT-YIELDS OTHER HAY CROPS	
ALFALFA	5.4 TONS PER ACRE
RED CLOVER	2.5 " " "
TIMOTHY	2.3 " " "
BROME GRASS	1.3 " " "

the farmers of the United States keep on growing 50,000,000 acres of timothy and clover, and only 5,000,000 acres of alfalfa? Would it not be much more profitable to simply reverse the figures, and grow 50,000,000 acres of alfalfa, and only 5,000,000 acres of clover and timothy? Think it over.—I. H. C.

DOES IT PAY TO PRODUCE CLEAN MILK?

The New York Agricultural Experiment Station has been making a study of the production of milk for city supply, and has found that under present financial conditions the wholesale price of city milk is not high enough to yield the average owner of a dairy a satisfactory interest on his investment. Therefore he is compelled to supply the cheapest grade of milk that the market will accept without reducing the price. The financial stimulus is the strongest force which can be enlisted to the improvement of municipal milk supplies. Milk supplies will never become better as long as the largest profit is attained by the production of dirty milk. However, they will improve when consumers are able to buy graded milk which they are sure is true to grade. The main opportunity for cheapening production is to omit the labor and care which are necessary to the production of the highest grade.

The average production per cow in the state is 2,100 quarts—much too low to give the dairyman any large profit with high cost of feed—in fact, he receives less than 6 percent on his investment. His financial salvation depends upon increasing the productivity of his land to the point where it takes less than five acres to support a cow, and increasing the productivity of his cows so that they will produce more than 2,100 quarts. Dairymen are human, they can not afford to produce a higher grade of milk than the market demands and is willing to pay for.

Pennsylvania Farmer

COW-TESTING ASSOCIATIONS

A reader asks about cow-testing associations. What the expense is to members per cow and the general satisfaction as to results obtained.

The object of the cow-testing association is to find out whether each individual cow of the herd is paying a profit to the owner or not. This, of course, covers the whole ground. It is very important because this very fact is the basis of improvement in dairying. If we want to grade up our cows it is evident that it will not pay us to raise heifer calves from unprofitable cows. It is poor business policy to keep a cow that is not paying any profit to her owner, and the only way we can get at the real conditions is by keeping a record of each cow in the herd and finding how much milk and butter-fat she produces. We must give her credit for this at the market price and then charge up to her what she eats, at the market price, and strike a balance. In this way we can ascertain whether the cow is bringing in a profit or not.

The cost is about \$1 per cow per year. This will depend somewhat, of course, upon the number of cows in the locality and what the members have to pay the man for doing the testing. If you can get a man for \$300 per year and his board and lodging, and can get 300 cows in the association, which must necessarily be in 26 herds or thereabouts, it will cost each member only \$1 per cow. If you have a smaller number of cows, or have to pay the man more, then of course it will cost more. A man could well afford to pay \$2 per head per year in order to have a record of his cows. One man who is a member of such an association reported recently that his test association has shown him conclusively that he had not been making distinction enough between good and poor cows. Some of his cows were worth only what they would bring for beef, while others were worth \$100 per head as a business investment.

'AN INTENSELY INBRED COW'

A study of the pedigree of the Guernsey cow Imp. Beauty II of the Conauche 28465, owned by O. C. Barber, of Ohio, opens up some interesting features on inbreeding. This cow closed a year's record on February 15 of this year of 13,513.9 pounds of milk and 248.81 pounds of butter fat. Her feeder, Mr. R. G. Murphy, characterizes her as an intensely inbred cow. In tracing her pedigree back to foundation stock it was found that she traces 19 times to the bull Presto 14 P. S. Her dam was a foundation cow whose breeding the herd book does not reveal. Thus the fact that in three-fourths of her pedigree this cow traces 19 times to one animal indicates how closely inbred she is. There is much discussion of the value or danger of inbreeding, and the record of this cow will furnish material for the advocates of inbreeding. She is reported to have finished her work in splendid condition and capable of even a better showing when she freshens again in June.

Hollow Tile—Steel Reinforced

is fireproof, weather proof, practically everlasting—the most permanent type of building construction known. THE IMPERISHABLE SILO is built of hollow vitrified clay blocks. It cannot burn, cannot be blown over, will last a lifetime without a cent for repairs. Glazed sides keep silage sweet and palatable. Any mason can build it, and it will give an air of progress and prosperity to your farm that will be worth much to you.

Our Illustrated Silo Book is full of valuable information for stock feeders and dairymen. It is written by authorities and should be read by every farmer. Send for free copy today—ask for catalog.

NATIONAL FIRE PROOFING COMPANY, Pittsburgh, Pa.

DE LAVAL CREAM SEPARATORS

THE BEST SUMMER FARM INVESTMENT

When dairy production is largest waste is greatest and quality poorest without a separator. The De Laval Separator Co. New York Chicago San Francisco



Fill Your Silo Pay when You are Satisfied Over 63 Years Experience Back of It. ROSS Machines are fully guaranteed You take no risk.

We want to prove that our machines are a good investment before you give up your money. We know they are so good that we do not feel it a risk to make this offer. Many new features have been added which you should know about before buying a machine. Catalogues free. The E. W. Ross Co., Box 161 Springfield, O.

HARDER The "Quality" SILOS

Don't buy a silo which only holds your corn when you can get the famous "Harder Silo" which preserves it and converts it into rich, succulent ensilage of the greatest milk-producing value. Better investigate the old reliable "Harder Silo." Our latest patented feature—"The Harder Anchor"—holds silo solid as a rock. No danger from storms. The kind "Uncle Sam" uses. Catalogue free. HARDER MFG. CO., Box 18, Cobleskill, N. Y.

Kalamazoo SILOS Last!

Construction is right, material is right. Only silo made with full-length structural steel door frame heavily galvanized after the riveting. Not a corner exposed to rust. Climate of seven kinds of wood. Infestible guarantee. We cross freight. Catalog shows many more fine points. Write for it today. Address Dept. 31, Kalamazoo, Mich. Kalamazoo Silo Co., Box 16, Kalamazoo, Mich.

Shoo-Fly THE ANIMALS' FRIEND

Keeps flies and other insects off of animals—in barn or pasture—longer than any insecticide. Laid and endorsed since 1887 by leading dairymen and farmers. \$1 WORTH SAVES \$20.00 in milk and flesh on each cow in a single season. Heals sores, stops itching and prevents infection. Swiftest better for galls. Kills lice and mites in poultry houses.

SEND \$1. If your dealer can't supply you, we'll send you enough Shoo-Fly to protect 200 cows, also our 3-tube gravity sprayer without extra charge. Money back if not satisfactory. Name and address on label. Shoo-Fly Mfg. Co., Dept. 42 1310 N. 10th St., Phila.



Live Stock

THE RAM'S "BLUEPRINT"

On account of the imminent change in the tariff on wool many farmers will be looking around this fall for mutton rams to use on the fine woolled ewe flock. Where such rams can be bought on sight the farmer can be his own judge, but many rams will be purchased by mail, and will not be seen by the buyer until the crate arrives at his express station. Simply to look over the list of advertisers, send cards asking for "prices," then send on the cash and await results has often proved a very unsatisfactory method of buying purebred stock.

The farmer can well afford to spend at least \$10 in going to the flock of the advertiser to select his own ram. If the breeder has not an assortment to offer, go where there is a chance to make a selection. If one can not go, then make out the requirements clearly so that the man who is offering rams may know just what is wanted. Preserve all correspondence, and if necessary, demand that the man who sells an inferior ram make good his agreements. If you are looking for a mutton ram, specify a weight that he must carry; the name is not sufficient, insist on quality and size.

The writer was once shipped a Shropshire ram from the state of Iowa, two years old, but weighed only 120 pounds after three days out of his crate. Such rams should go right back to the seller. No association should tolerate on its membership rolls those who openly deceive less informed or distant buyers.

The man who wants a mutton-bred ram should insist on getting the goods. Do not be willing to accept a mean looking, black-faced ram no heavier than a Merino, simply because he may carry the name that is supposed to mean mutton type. Do not let the fancy covering of face or legs sell any breeder's ram to you if he does not make good on the scales.—Geo. P. Williams, Delaware Co., Ohio.

DISEASES MISTAKEN FOR HOG CHOLERA

Ninety percent of the losses from disease among hogs are due to cholera, but other diseases are often mistaken for it. This sometimes leads owners to blame serum because they have used it without benefit.

Garbage poisoning is one trouble sometimes mistaken for cholera. It results from feeding hotel and restaurant table refuse containing large quantities of soap. The soap causes severe inflammation and it or other irritating influences produce symptoms much like those of cholera.

Worms cause troubles mistaken for cholera by multiplying in the lungs, causing irritation, stopping the air passages and giving rise to a cough and pneumonia. The animal becomes unthrifty and loses flesh, but does not die quickly or show the other characteristic symptoms of true cholera.

Worms in the intestines cause diarrhea, dullness, and lack of thrift but their presence can usually be detected in the droppings. Cholera is not present if the animal does not show the other symptoms, including fever, redness of the skin, and sudden death. When worms are present the appetite remains good. Loss of appetite is usually an early symptom of cholera.

Tuberculosis rarely runs a rapid course in hogs and should not be mistaken for cholera. It occurs most frequently among hogs fed on slaughterhouse refuse, creamery or other skim-

milk containing tubercle bacilli, or those following cattle.

If in doubt as to the presence of cholera have a competent veterinarian examine one or more of the dead hogs, but do not expect serum to protect against any of these other diseases. Hogs entirely immune to cholera may die from one of these other troubles.—H. P. Hoskins, Assistant Veterinarian, Minn. University Farm.

Veterinary

(Conducted by W. C. Fair, V. S.)
(Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer. Initials only will be published. When reply by mail is requested, it becomes private practice, and a fee of \$1 must accompany the letter. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, would make one of the most valuable medical symptoms a farmer-stockman could obtain.)

Poisoned.—I have lost three calves lately, all of them showing same symptoms. All died within the period of two weeks. They first refuse to eat, act dumpy until they die, but showed no symptoms of being in pain. I opened them, found some fluid and thought gall bladder was too large. L. T. Canister, N. Y.—I am inclined to believe that your calves died the result of food or forage poisoning. It will not be an easy task to tell just what poison it was. You did all that could have been done for them. It is always good practice to open bowels with either salts or castor or raw linseed oil. Give next sick one 5 grains quinine at a dose, 4 times a day. Are you sure their water supply was not bad?

Acidity of Stomach.—I have a cow, 5 years old, that seems to crave old bones and is inclined to chew wood. She seems to be healthy. If you can suggest some simple remedy I should like to know it. J. M., Dayton, Pa.—Give her 1 ounce gentian, 1 ounce bicarbonate soda and 1 oz. salt at a dose in feed, 3 times a day and she will soon show signs of improvement. A change of feed is always desirable in cases of this kind.

Collar Galls.—I bought a mare 6 weeks ago that had very sore shoulders. I worked her twice and her shoulder healed nicely. Yesterday I worked her and the opposite shoulder became sore, swelled considerably and there is now a raw spot in center of hunch. What can I do to remove this swelling? W. J. M., Millertown, Pa.—It is needless for me to say that her collar should fit, and you had better apply the following lotion, 4 or 5 times a day: Dissolve 1 lb. acetate of lead, 3 oz. sulfate of zinc and 2 oz. tannic acid in a gallon of water. A hard bunch may remain, which should be cut out next autumn or winter.

Wind Galls.—I have a mare, 8 years old, which I drive on my ice wagon. About a year ago a puffy bump appeared on leg, above fetlock, which is now making her lame. J. A. V., Peconic, Long Island, N. Y.—Apply 1 part iodine and 8 parts cerate of cantharides to bursal bunch, every 2 or 3

days. I have obtained fairly good results by applying tincture of iodine daily.

Tail Switching.—I have a horse that is inclined to switch, which makes it quite unpleasant to drive him. If anything can be done to partially prevent this habit, I would like to know it. N. H. J., Beaver Falls, Pa.—A gelding that switches should have the tail hair braided and tied to each end of whiffle tree or trace, or make him wear well-padded crupper. When a mare is spayed or pregnant, she generally discontinues this switching habit.

Ringworm.—What shall I do for calves that are troubled with ringworms? These sores appear to spread over head, neck and shoulders. H. L. E., Washington, Pa.—Wash the sore part with soap and water, then apply 1 part iodine and 20 parts fresh lard, every 2 or 3 days.

Warts on Udder.—There are quite a number of warts on right hind quarter of cow's udder. I would like to know how to remove them. B. H. T., Espyville, Pa.—Apply either castor oil or olive oil daily.

MISCELLANEOUS

IT PAYS TO BUY THOROUGH BRED & KEEP IT PAYS, "the sheep man of the east." I sell and ship everywhere and pay express charges. I will start one man in each town. Write for club offer and descriptive price list. Shropshire, Hampshire, Poitot-Helaine and PARSONS OXFORDS. Rt. 3, Grand Lodge, Michigan

Men and Boys \$50 to \$500 a year raising Belgian Hares. Circular Free. Geo. C. Fox, Darien Center, N. Y.

SWINE

FAIRFIELD MAID 3rd

No. 172169, on the 21st April farrowed eleven pigs, by Beauty's Masterpiece (Herkshire of course). The pigs are all living and are a bunch of beauties. Six sows and three boars for sale. W. F. McSPARRAN, Furness, Pa.

Large Berkshire Swine, Registered High grade. HOME FARM, Center Valley, Pa.

Large Berkshire full pigs, either sex, also booking orders for early spring pigs, reasonable prices. FRANK BLUM, Rt. 2, New Washington, Ohio.

Choice English Berkshire Pigs for sale. Both sex, from prize winning stock. Also one service boar. J. B. WILLIAMS, Rt. 1, Hornell, N. Y.

Poland Chinas and Dalmians. Well bred pigs and rams for sale. C. OWEN CARMAN, Box C, Trumansburg, N. Y.

Duroc Jerseys—Champion herd at W. Va. Pa. No. 3 State fairs, 1912. Booking orders for spring pigs. R. B. Martin, Stout Mills, W. Va.

MULEFOOT HOGS

Oldest breeder in the State. Pedigreed stock for sale. SAMUEL JOHNS, Wilmington, Ohio. See Ad.

A'ALFA LODGE YORKSHIRES, short nose type. This unrelated. Special sales—Best pigs, ten dollars. John G. Curtis, Rochester, N. Y.

O. I. C. Thoroughbred spring pigs, pairs and trios. F. S. MUCKDICH, Hartstown, Crawford Co., Pa.

Registered Chester White Pigs and Jersey Bull Calves FOR SALE. J. A. HOAK, N. D. & New Castle, Pa.

CHESHIRE—The pig that keeps well and strong if you let him. A hunter. Fred W. Card, Sylvania, Penna.

I'll Feed Your Stock 60 Days Before You Pay

Save Your Lambs **Save Your Pigs**

I'll stop your usual summer losses from worms. I'll promptly rid your stock of these blood-sucking, profit-eating, dangerous pests and put your animals in better summer condition than ever before. I'll do it at my risk—not yours. You need not pay me a single cent if I fail. I'll do it with Sal-Vet.

The Great Worm Destroyer

SAL-VET

"Sal-Vet" requires no dosing, no drenching, no handling, no trouble at all. Simply place this wonderful medicated salt where all your stock can run to it freely and THEY WILL DOCTOR THEMSELVES. You will be surprised how they will keep in better condition—thrive better—gain faster—make you more money. I'll prove it right on your own farm at my risk before you pay.

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Fill out the coupon at right—tell me how many head of stock you have and I'll send you enough "Sal-Vet" to last all your stock 60 days. You simply pay the freight charges when it arrives. If it fails to do the job, I'll cancel the charge—you won't owe me a penny. Address

THE S. R. FEIL CO., Mfg. Chem.
Dept. P-17
Cleveland, O.

PROOF

10 days after I commenced feeding my horses "Sal-Vet" they began to eat. Each day they ate more and more. I have used tobacco in large quantities and worm powders of three different kinds and they did not work. J. A. A. and I, Maple Hill Stock Farm, New Harmony, Ind.

"Before getting your 'Sal-Vet' I had lost fifteen of my best hogs but since feeding 'Sal-Vet' I did not lose a single one, and every one is in fine condition."—J. A. A. and I, MAPLE HILL STOCK FARM, New Harmony, Ind.

PRICES: 40 lbs. \$2.00; 20 lbs. \$1.00; 10 lbs. \$0.50. No orders filled without money. New—Sal-Vet in bulk only to dealers. Write for details. Shipments for 60 days' feed are based on 1 lb. of Sal-Vet for each sheep or hog, and 4 lbs. for each horse or head of cattle, for as we can come without breaking eggs.

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Ship me enough Sal-Vet to last my stock 60 days. I'll pay the freight charges when it arrives. Report results in 60 days and I'll then pay for it. If it does what you claim, if it does not, you are to cancel the charge.

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Grange

EDITOR'S NOTES AND COMMENTS

The Country Faith

Here in the country's heart
Where the grass is green,
Life is the same sweet life
As it e'er hath been.

Trust in God still lives,
And the hell at morn
Floats with a thought of God.
O'er the rising corn.

God comes down in the rain,
And the crops grow tall—
This is the country faith
And the best of all.

—Norman Gale.

Grange Picnics.—The farmers' picnics thus far held have been well attended, and the same lively interest is manifested in the problems which affect the welfare of agriculture. The universal disposition of mankind to gather together in the shade of trees, close to the heart of Nature, and study subjects pertaining to the general welfare, as well as to visit and play, enlarges our imagination so that we can look back thru the ages and see the primitive race sitting around the council fires, discussing its problems. Too far fetched? Maybe so, but by some such method society has learned its lessons in civilization and advancement. Today we call it co-operation.

Crop Prospects.—Despite the emphasis the daily papers are giving to the statement that record-breaking crops are in sight, my observation does not bear it out. This brings to mind what is so often seen, a seeming disposition on the part of the press to spread news of great crops, even when the facts will not prove it. Since all daily papers are published in the city, it is possible there exists a natural tendency to "hear" the markets to the disadvantage of the farmer and to the advantage of the city dweller! Or is it because reporters, unlike those spoken of of old, "Have eyes to see and see more than there is."

The Rural Schools.—How much is being done in your community to make the next term of school in your community minister to the rural needs of the children and young people of the neighborhood? What difference is there likely to be between the coming term of school and last year's session, except possibly a different teacher, no better qualified than the last? Has your grange taken up the subject and given it thoughtful consideration?

It is time rural communities realized more fully the part the rural school might and will play in the advancement of agriculture and the development of a better country life. The centralized, graded school will be the school of the future, and why not have it now for our children? Seemingly the only thing in the way is the unfortunate possession of the numerous one room, store-box buildings we now have. Does the manufacturer or the railroad company refuse to adopt the better equipment because they have a supply of old and antiquated machinery or engines? If your binder would not bind, you would get a new one. The rural school is not doing the work that is needed—fitting rural people for efficient, successful rural lives. Why not provide the means that will. We have sufficient examples in existence to show us that the work can be done.

The opportunity for bringing about one of the greatest strides of the age

in advancement is open to the grange. Will we grasp it?—R. P. Kester.

A PAPER FOR NON-TALKERS

How often in our granges, farmer's clubs or organizations of the sort, we find members who have perfectly good ideas on practical, every-day subjects, but are too backward or diffident to get up and talk. We have arranged to make good use of these valuable members by arranging a monthly paper. We call it "The Review," and many good points are learned thru its pages. An editor is selected each month, and usually we find it is a woman who has the job. She asks five or six of the members to give her articles on subjects of their own selection. Of course, each one writes about what is nearest to him at that time. The editor will draw a picture or fix some sort of an illustrated cover for the book. We find ordinary typewriter paper very good for the manuscripts, with a piece of heavier paper for the cover. These are tied together to form a book or paper.

We sent all the manuscripts to the high school last month and had the articles used in dictation for the advanced typewriter pupils. The result was very gratifying, and the pages came back neat, clean and perfectly legible. To have the book uniform in size, the editor usually has to copy every page sent in. By doing it in this way, lots of extra labor was saved and the work of reading the book was very greatly lessened.

The editor usually has a good editorial to begin with, then a few pages on politics affecting the farmer, current topics, a story with some practical point to it and a few jokes. We always have the editor read it, half at a time, using a speaker or some music between. A page of "ads" adds to the value of it. Help wanted, for sale and general wants, when sent in, are often of real value when brought before the people in this way.—Evelyn Harris, Maryland.

THE PRICE OF OPPORTUNITY

The Single Tax on Land

In the recent "Commencement Days" news reports told us of large numbers of young men and women, formerly youthful and non-producing, that are now energizing into the position of adult, producing competitors in the field of production. Have we been providing opportunity for these young people? Do the gates of opportunity stand invitingly open, so that these bright, enthusiastic hopeful minds can employ themselves, or will they be compelled to look thru the bars and be satisfied with the unwholesome pickings of the roadside, or will they purchase the "right" of opportunity by giving up a large portion of their earnings to some "caretaker," who holds the keys? It is not from motives of idle curiosity, but from pure patriotism, that I ask a careful consideration of this problem—the "problem of the unemployed."

A very close friend of mine, whose son has just graduated in agronomy from State College, has been trying to locate his son so that the four years of scientific development would not be wasted, but that it might be devoted to the cause of human betterment and knowledge. I am informed that this young man, thru his poverty, will be compelled to travel past thousands upon thousands of unused opportunities on which he could profitably employ himself, before he can reach what is called free land. Why do we permit this? Is it because we prefer to get our living from the far-off regions where loneliness and privation wait upon the producer, or is it because we are just foolish? I am inclined to think the latter.

Within 50 miles of Philadelphia there are numberless unused opportunities, on which this young man could employ himself. Let us suppose him finding such an opportunity. When he inquires will he not find that "extra" fertility of the land, "extra" accessibility to market thru good roads and transportation facilities, are not the only things for which (and justly so) he must pay for in annual rental instalments, but he will also have to pay to some other individual a price, not to help him to produce, but to get out of the young man's way and allow him to produce? The amount of this price will often be determined by the nearness of the opportunity to Philadelphia's City Hall: in other words, the so-called owner is figuring that Philadelphia and its surroundings, with a population of 2,000,000 or more, will increase to 4,000,000 or more in a few years.

How much longer must we suffer from our assinine method of treating land? Unoccupied land should everywhere be free to the working producer, save for the payment of a rental value due to natural advantage and increase of population—two things for which he is not responsible. The old ridiculous lie that men will not improve land except they "own" it, has been exploded, and while the effects of our long belief still remain, it will fail any longer to muddle the thought and pervert the moral conscience of those who have real desire to find a way out from distressing conditions.

Perhaps out of the graduating classes of 1913 there will come someone who, perceiving that the highest class improvements are built on land not owned by the builders, and that a price has to be paid for the privilege of working on earth's poorest opportunities, will recognize the fact that private ownership of land locks the gates of opportunity, and will resolve that he will take up and lead to successful establishment the only force which will "take down the bars"—the single tax on the value of land.—Oliver McKnight, Philadelphia.

The Bond Issue.

We desire to give our readers an opportunity for a complete discussion of the road bond issue before the coming election. This department is open to all readers.—The Editors.

WE WANT NO ROAD BOND ISSUE

I have just read your editorial in Pennsylvania Farmer of June 25, and note your invitation to readers to express their views. I am glad to know that you are going to give the farmers an opportunity to discuss this most important question.

Here is a random illustration of the result of the Sprout bill, requiring state roads connecting county seats. Chambersburg (Franklin County) is to be connected with Gettysburg, Carlisle, New Bloomfield, Millintown, Huntingdon and McConnellsburg. It is already connected with the first two named boroughs by railroad. Therefore it needs no state road to make that connection. Connecting it with the other boroughs will serve no economic purpose, so far as the producer is concerned; it will not tend to increase production, better marketing systems or lower the present high cost of living. In fact, no such purpose was considered by those who drew the Sprout bill.

In Franklin County there are 52 railroad stations from and to which over 90 percent of the food products and other local freight are handled. If the Sprout bill provides roads which will lead from these stations to any farming section it is an accident and not because the bill was so intended. Why is

this? Good roads to connect the points above stated are intended only to serve a class, the automobilists. This class is a non-producing, pleasure-seeking class, whose present use of the roads not only has no economic value to the producer, but is a constant source of trouble and danger.

The largest expenditure ever contemplated by our state is designed, then, not for the economic development of the state, not to serve the producer and the consumer in an effort to make life tolerable and food of wholesome character cheap enough to be within the reach of that other producer, the city man who labors, but to serve the pleasure of the idle rich.

But, you say, Mr. Bigelow has promised to develop the country roads. Ropes of straw, my friend. Judge how Mr. Bigelow will keep this promise by how he kept previous ones. The enormous sums spent in the last two years all went for speedways; he has not even published a bulletin to tell us farmers how to make our own roads. A good many farmers who feel certain that the enormous cost of the road represents a large percentage of graft firmly believe that no part of this excess went to Mr. Bigelow. To this class I belong. But the fact that there was a cost enormously in excess of what it should have been, and that contracts were nicely drawn to permit graft and fraud, if the contractor so desired, makes it imperative that the spending of this vast sum of money be in other hands.

But, you say again, Mr. Bigelow is not to build the road. There is to be another administration and a new commissioner. Don't fool yourself. Mr. Bigelow had spent funds not yet assigned to him before the last legislature convened, and had to have these funds assigned to him to make up for contracts let. He can do that again. The present governor did not force the appointment of Mr. Bigelow without having definite plans for the future. Should the bond issue pass there will be a special session of the legislature. The methods used to force the confirmation of Bigelow may easily be enlarged. The \$50,000,000 will provide ample means to secure a majority in the house and senate to pass such a bill as will enable designing politicians to get hold of this enormous loot. Then will follow a scandal such as we have never heretofore known; and all our efforts to efface the stain of our years of political debauchery will have gone for naught.

Will they dare to do it? Look at the record of the present legislature. Pledges unkept, demands of a constituency unheeded, humanitarian legislation beaten; and why? Because the "men behind" are nothing for humanity. Because they bully-rugged and beat and bluffed once decent men to break faith with constituents and to violate their own consciences. Do you, Mr. Farmer, imagine that any serious part of this loot will be used to help you? Drop that idea; it's red-hot folly. You are only a pawn in the game. You are to be fooled by specious promises, and laughed at after you have voted on the faith of those promises.

The roads are to be built for the class that started to howl for state roads, the automobilists, the idle rich, whose money is of far more importance to the professional politician than your needs, your demands or their own promises. Therefore, because I am really in favor of good roads that will develop our producing sections and serve the farmer and the consumer, and because I am satisfied that we will not get such roads as a result of voting for this bond issue under existing circumstances, I shall vote to defer the bond issue until we have cleaned house—A Plain Citizen.



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Philadelphia, Pa., July 12, 1913.

There is a growing impression in many quarters that Governor Tener will call an extra session of the legislature next December. The compensation bill, which was one of the big issues in the last session, was referred to a commission with instructions to report by December 1, 1913. This is taken as an indication that a special session will be called, ostensibly to receive and act upon this report. But whatever excuse is urged as the cause or need of a special session, the proposed \$50,000,000 bond issue is so closely related to the known policy of the administration that it, rather than the compensation bill, will be accepted by the people as the real purpose of another session this year. The calling of such a session will have a direct bearing upon the consideration of the bond issue which the people as well as the governor may well give attention to. The bond amendment was passed in the legislature with the understanding that the funds, if made available by vote of the people, would not be administered by the present officials of the Highway Department. The issue was to go before the people with the same understanding. Making this a feature in the general consideration of the bond issue is not a compliment to the present make-up of the Highway Department, but it can not be denied that even the friends of the measure were willing to make it an important feature while the resolution was before the legislature. The voters can do no less than take the same view, not necessarily because Mr. Bigelow and his assistants are more susceptible to political influence than their successors might be, but because the people justly feel that the present officials have not given sufficient attention to preliminary work to insure the most economical and wisest use of so large a sum of money. For this the Highway Department must assume all blame. It has had the opportunity to demonstrate its fitness to handle a broad constructive plan of road improvement, and it has failed. Every serious-minded citizen, regardless of his opinion on the merits of the bond plan, knows that there must be a well-devised system of road building and an efficient organization of the highway forces before the

Pennsylvania Farmer

July 12, 1913.

state is ready to make the best use of such an appropriation. The present officials have not done this preliminary work, and the voters are justified in the belief that these officials are not properly qualified to handle the road work on such a large scale. If an extra session of the legislature is decided upon, it will have an important effect upon the vote upon the bond issue. The voters are not likely to be deceived as to the real purpose of calling such a session. They know the record of the present members of the assembly on the compensation bill. If a special session is called, it will be for the purpose of having bonds issued, and secure to the present administration the handling of the money.

The great reunion at Gettysburg last week held the center of national interest. It was the veterans' week, and the old "boys" made the most of it. We are all glad that the reunion was made possible to them, and we all rejoice in the opportunity which was theirs to renew acquaintances and revisit the scene of their most valiant service. The American volunteers set a new standard of soldiery in the annals of warfare. They have since maintained that standard in citizenship. The old countries wondered at the efficiency of American armies which were transformed in a few months from common citizens to fighting troops. They wonder today at the magnanimity of the victor and vanquished that can come together on the scene of their most decisive battle and join with unity of sympathy in celebration of the greatest conflict of all times. The rising generation profited by the stories of the events at Gettysburg last week. They profited by the retelling of the stirring events of 50 years ago. The story of Gettysburg will never be forgotten; but we are in danger of forgetting the quality of citizenship which was exhibited there. The honorable soldier has always been accorded his full measure of homage. We have a natural admiration for the physical achievements of man; but we sometimes overlook the qualities which make heroes where all men are engaged in physical conflict. The men at Gettysburg 50 years ago, and the few who were able to gather there again last week, were more than heroes in warfare. They were heroes in citizenship, and the highest type of manhood in the things which make national character. In the strife for principle and the right which must always exist, there is need of the same type of manhood, altho exerted in more peaceful conflict. In the maintenance of that type we need the example of Gettysburg, and we need to keep fresh the memories of our heroes who fought there.

We have rather frequent complaints of questionable claims made by so-called "tree doctors," and practices used by them in treating trees for disease. Since interest has awakened in spraying and special treatment for the eradication and prevention of insects and fungous diseases, many growers with small orchards have found it profitable to hire such work done. Men with sufficient knowledge of spray materials and time and methods of applying them, having modern outfits, have worked up a good trade in going from farm to farm and doing spraying work. These men are doing a legitimate business, and will usually give satisfactory service at satisfactory prices. But there seem to be unprincipled fakers for every opening that develops, and such fakers have become a nuisance in orchard and fruit tree work. Their usual method is to approach the fruit

grower or small orchard owner with a freak cure or treatment, and make extravagant claims as to results. There have been men working thru Pennsylvania claiming a cure for "yellows," leaf curl, borers, etc., resulting from the injection of a liquid into the tree, or the placing of a capsule filled with some liquid in the branches, roots or trunk of a tree. The experienced horticulturists and all fruit growers who have taken the trouble to inform themselves know that these claims are false, and they will have nothing to do with the agent. But there are enough who are not informed to give these fakers a fairly remunerative business, and they continue in the field, picking up victims wherever possible. It has been clearly demonstrated by authorities in horticultural work that the injection of a material into the fibres of a tree is absolutely of no value, but is a menace to the tree in that openings thus made provide access for dangerous insect and fungous pests. An effective means of stopping the operations of these fakers was provided in a bill introduced late in the last session of the state legislature. This bill would have all "tree doctors" take out a state license, issued by a commission fully qualified to judge of the applicant's fitness for the work. Unfortunately, the bill was not passed, either for lack of time to give it proper consideration or thru opposition. It is to be hoped that a similar measure will be introduced at a later session and made a law. Until that time every farmer must protect himself by making a careful investigation of the "cure" and its method of application, as well as the character of the agent, before permitting the work to be done. The state Experiment Station or the state Department of Agriculture stand ready to give you advice on such matters. Make use of their service and save money and your trees from bogus "tree doctors."

One of the indications of the increasing power of the public in shaping legislation is found in the efforts put forth by special interests to create public opinion favorable or in opposition to certain laws. A few years ago an energetic lobby, located at the seat of government and operating on the representatives of the people was all that was thought necessary. The recent investigations in both our state and federal capitols indicate that the lobby system is still very much in vogue, but increasing effort is also given to general publicity in the hope of reaching the people themselves and "educating" or creating public opinion. An example is found in the case of a news bureau which has been maintained at Harrisburg during the last session of the state legislature. This bureau has been getting out a weekly "news" letter for free use by all newspapers and periodicals on its mailing list. The service was announced to cover legislative news from an impartial and non-partisan standpoint. Gradually, however, matters relating to certain special interests were made more prominent, and the service has finally resolved itself into a defense of the use of benzoate of soda, and an advocate of the unhampered use of benzoate in food products. This "news matter," purporting to come from a disinterested source, is no doubt finding its way into many of the weekly and daily papers thruout the state. The readers of these papers are getting the news and arguments on one side of the benzoate question prepared for them by a body of men who know just what they want the public to believe about this product. This is a form of lobbying which only the papers and the good sense of the people can combat.

The honest newspaper, with a proper regard for its responsibility to its readers, will not use matter so palpably colored to further the cause of special interests; and the reader who looks to his paper as a source of reliable news should not support a paper that gives space to such matter.

The agitation for a "safe A Saner and sane" celebration of the Fourth Fourth of July is showing most gratifying results. The list of victims each year is growing smaller, and it no longer resembles the record of losses of a decisive battle fought for some worthy purpose. The list of victims in the country in the celebration of the Fourth just passed is given as 16 killed and 874 injured. These figures include not only the losses thru explosives, but all accidents incident to the gatherings and outpouring of holiday crowds. The list of accidents due entirely to gunpowder and "insane" celebration, according to latest reports, include only one killed and 280 injured. The progress that has been made in overcoming the old-time idea in celebration is indicated by a comparison with the record five years ago, in 1908, when the figures read 25 killed and 670 injured. The record for the present year is inexcusable, as it means a sacrifice of life and limb for no purpose, but it shows commendable improvement. Better still, the forms of celebration that have been introduced to take the place of the old, are better calculated to inspire patriotism and instruct in those things for which the day is observed.

STATE CAPITAL NEWS

To Carry Out New Laws.—Now that the legislative session has ended, the officials of the State Department of Agriculture are arranging to carry out those portions of acts of 1913 relative to their part in the state government. Within the next month it is expected that several new lines will be in full operation. With the approval of the general appropriation bill the money is made available for two years and work which has been retarded since spring can be taken up without loss of further time. Governor Tener has been in consultation with heads of departments and the plans of the department of agriculture and its divisions have been laid before him. Owing to the intimate relation between most of the departments and the legislature by reason of the bills presented, business in many branches of the state government is more or less light during the closing weeks of a session, and just now people are busy catching up with details.

Farm Counsellors to be Named.—One of the early steps to be taken at the department of agriculture will be the naming of the 10 persons to have charge of the "advice bureau," which was created by the North bill. Under the terms of this act these counsellors will be named for two-year periods and will respond to call for assistance which may be sent to the department. There will be experts on crop development, soils, sanitation, dairy, live stock, household sciences, poultry, co-operation in buying and selling and in other features of farm work, the division of economic zoology lending such aid as is asked in horticulture in which the state has made such remarkable advance in recent years. These counsellors will include at least one woman to advise the women folks how to handle their end of the farm problem, and it is the intention to have all appointees well fitted to make suggestions to improve the conditions of life on the farm. This work, which will bring the work of the state into closer relation with the people than it ever has been, will be a permanent feature of governmental aid, as it has proved in some states to be most valuable. Many letters received at the department of agriculture testify as to the necessity for just such advice.

Cold Storage Regulations.—The regulation of cold storage in Pennsylvania, which has been entrusted to the dairy and food commissioner, is now being worked out so that it can be announced in advance of August 16, when the new law will become effective. A complete

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set of rules has been drafted and men interested in the trade and in super vision are now making suggestions so that there may be a thorough understanding of what the state will require and the act may become effective promptly. It is the general belief here that tests of the constitutionality of the law will be made.

Bees Inspection Begins.—State Zoologist H. A. Surface, has named George M. Rea, of Reynoldsville, an experienced bee culturist, to have charge of the bee inspection provided for under the act of 1911, but for which no appropriation was made until this year. Mr. Rea will make a special effort to stamp out the disease known as foul brood, which has been annoying many farmers. Mr. Surface will have Mr. Rea cover as many points as possible, and persons who desire the advice of the state should communicate with him. Owing to rapid development of orchard enterprises in the state, the importance of bee culture, because of the pollen-carrying properties of the insects, is growing, and the small appropriation made by the legislature will be of much value to the state in the end.

Summer Smallpox.—State officials are advising general vaccination in many parts of the state because of the prevalence of smallpox in a number of the boroughs and smaller cities this summer. It is pointed out that most of the cases have appeared in market towns, and people in rural communities are being urged by medical inspectors to attend to vaccination. Thus far smallpox has appeared in 10 counties, and strenuous efforts are being made by department of health officials to localize it as much as possible.

Will Settle Complaints.—Contrary to the general impression, the cases or complaints now pending before the State Railroad Commission, which involve a number of questions about rates and sidings on railroads and telephone service, will not have to be re-negated, but will be taken up by the new public service commission as soon as named. Under the terms of the pending bill the commissioners will take office as soon as named, but will have until fall in which to complete their organization and dispose of pending cases.

Fish Department Work.—The State Department of Fisheries is pushing distribution of young fish and bullfrogs from the hatcheries at Torresdale, Wayne and Union City this summer and it is expected that the output will be larger than last year. The state is sending out large quantities of young frogs, many of which are being shipped to farming communities in response to requests from people whose districts have been cleared out of frogs by the rapidity of pot hunters. Owing to the rapid increase in the number of frogs, the state is now sending out young frogs. Fire Marshal Baldwin is cautioning farmers regarding inspection of barns for fires due to green hay. Last year a marked percentage of the barn fires reported were found to be due to combustion due to the storage of green hay.

No Weed Bounty.—Contrary to an impression which appears to be general in some of the townships, there were no bills passed by the last legislature which provided bounties for the eradication of thistles, wild carrot, wild mustard and other weeds. A number of such bills were introduced, but did not get out of committees, their sponsors failing to muster enough strength to get them favorably considered.

Will Extend Inspection.—State Zoologist H. A. Surface is busy on plans for extension of the state's orchard inspection service, and by harvest time it is believed that considerable branching out of the work can be undertaken. Dr. Surface expects to name five additional inspectors for this fall and winter's work and will make some changes in districts to meet the rapidly growing demand for the expert advice.

Few Forestry Purchases.—In all likelihood Pennsylvania's purchase of forest land for reserves will be limited in the next two years, the amount appropriated having been comparatively small, and a good part of it will be required to pay for the Mont Alto and other lands optioned last year. The total acreage of the state's reserves is about 900,000, and it will hardly reach a million for the next two years. Considerable attention is to be paid to auxiliary reserve development in the central section of the state.

State Highway Work.—Bids for the construction of at least a dozen sections of highway under the state main highway and state-aid acts will be asked by the highway department in the next few months. The inspections of main

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highways have been completed and the portions which must be rebuilt have been picked out and the surveys of sections on which state aid has been asked are being completed. Estimates are being prepared on a large amount of construction work which is to be put thru this fall, especially in connecting county towns. The additional routes carried by the Jones bill, recently passed, will not be taken over for two years. They will, however, be kept under supervision as far as possible.

Many Township Acts.—In the 645 acts which remain on the desk of the governor at this time are about 20 affecting townships. The governor will dispose of all bills by July 27, and it is probable that all measures relating to governmental affairs will be given early consideration. About two-thirds of the bills before the governor relate to appropriations, and they will be held until the last so that the revenue problems can be worked out. As already indicated in this letter, reductions to the total of over \$20,000,000 must be made in the appropriation list.

NEW JERSEY FARM NEWS

Grange Opposes System of Weights.—At the last meeting of Pomona Grange of Monmouth County, a committee was appointed to formulate resolutions to be presented at the next meeting to advance the metric system in this country. It was stated at the meeting that it might seem ridiculous for a county grange composed of farmers to take up a measure of international interest, such as the adoption of the metric system, but every reform must have a beginning. There is surely no better place to begin a reform looking to the adoption of a universal system of weights and measures than at a farmers' grange.

Produce Sales Company Incorporates.—The Burlington County Produce Sales Company has been incorporated. The capital stock of the company is \$50,000, and the object is to deal in fruits and vegetables.

Cranberry Crop Short.—The prospect for this year's cranberry crop is poor, and less than a third of the normal crop is looked for in South Jersey. Thousands of acres were affected by the cold spring weather. Among these are the Friendship bogs, 500 acres, owned by Evans & Wells; the Ruspalia bogs, 100 acres; John Applegate's bogs and Victor Ritzendollar's bogs, 50 acres, all in the neighborhood of Chatsworth, which is one of the great cranberry districts of this country.

Milk Market Overstocked.—Commenting on the milk situation, the authorities state: "That the market is largely overstocked is beyond question, the surplus being estimated at 20,000 cans daily. But we think it would be a serious loss to the one who turned it into the churn or cheese vat, the product of which commands a high price. The Milk Exchange ventured no opinion as to the market value of milk in June. Milk is worth all one can get, and then it's up to the other fellow to find out its value to him."

Salt Hay Crop Light.—Growers of salt hay say that this is an exception ally poor year. The yield is light and black grass is blooming out at a height of 8 inches or less, which means it will not grow much higher. Down at Manahawkin, one farmer has mowed off several carloads from meadows that were not mowed off last year. Another has put in a lot of new machinery for this year's work, and is considering the installation of a power hay press. Growers are not agreed just why the hay crop should be so scant. Some blame it on the cold weather, some on the tides.

Farmers' Picnic.—Governor Fielder has accepted an invitation to attend the farmers' picnic, to be held at Washington Park, from Tuesday, August 13, to Thursday, August 21. The governor will be present Thursday, which is known as "Governor's Day." This picnic, which has grown into a sort of a fair, is one of the important events among the rural counties in the central and southern parts of the state. When President Wilson attended the picnic last year the attendance was around 50,000.

Oyster Observatory.—The first oyster

observatory in this country is to be established in this state in accordance with arrangements which have been made by Professor Julius Nelson, biologist of the state experiment station, and Chief Charles R. Bacon, of the bureau of shell fisheries. The purpose of the observatory is to obtain data relative to the conditions of water, atmosphere and bottom which control the growth of shell fish.

Elm Leaf Beetle Disappearing.—The elm leaf beetle, which at one time was said to threaten the lives of all the elm trees in this state, is now reported to be not only under control, but diminishing in numbers very appreciably. The time is said to be not far distant when its ravages on the foliage of elm trees will be negligible, and it entirely eradicated thruout the state.

Army Worms Work Ruin.—There is an epidemic of army worms on the farms in central Jersey. They have done a great deal of damage to rye, wheat, timothy and corn. Their appearance in such numbers is due to the exceedingly mild winter. Several different methods have been used in fighting them, but about the best is the old-fashioned one of plowing a furrow with its perpendicular side toward the field to be protected and the subsequent dragging of a log thru the furrow to make the earth friable and kill the worms which have accumulated in the ditch.

Large Summer Schools.—The attendance at the four state summer schools is much greater than at first expected. A remarkably fine course is offered at the state college at New Brunswick. Among the branches taught are nature study, school gardening, elementary agriculture, poultry husbandry, agricultural botany, domestic and industrial science and art, and general zoology.

Forestry in Schools.—Forestry will be taught next year in the schools of Middletown Township, Monmouth County, they being the first in the state to adopt it. An instructor in agriculture has also been engaged, this township being the second in the state to adopt such a course. The first one to adopt agriculture was Freehold, also in Monmouth County.—D. T. H.

NEW YORK LETTER

Great Gathering of Farmers.—One of the largest outings of farmers ever seen in Columbia County, this state, was that of July 4 at the Berkshire Industrial Farm—an institution that takes boys from the cities who have been arrested for minor crimes and seeks to make good men of them. It is succeeding admirably. The outing was attended by nearly 2,000 people. After the noon lunch hour in the grove there was a fine program of speeches and music, the addresses being given by State Master C. M. Gardner, of Massachusetts; Hon. Geo. T. Powell, of New York, and Rev. Dr. W. J. Leggett, of Chatham. The farm boys sang patriotic selections and a neighboring band furnished music. After the speech making the visitors inspected the buildings of the institution. In the evening the farm boys gave a concert.

Farmers Violate the Laws.—The Albany sealer of weights and measures has been obliged to issue warrants for farmers who are violating the new counter law in the sale of butter on the public markets. Short weight and the failure to mark the weight on the container are alleged. Ice men and bakers are also violating the law.

New Education Head.

President John H. Finley, of the College of the City of New York, has been chosen State Commissioner of Education by the Regents of the state, to succeed the late A. S. Draper. It is conceded to be an admirable appointment.

Crops Not So Bad.—The commissioner of agriculture has secured information thru his agents thruout the state to the effect that the reports in the newspapers as to the damage done by frost and later by drouth are not authentic. He says that hay, oats and corn are only about 10 percent under last year at this time. Rye and potatoes are a good average. Apples of the fall varieties are better than last year in most sections of the state. The winter varieties are equal to last year in the Hudson River Valley, but about 25 percent less in western New York. Baldwins are rather a light crop.

Commissioner of Health.—Governor Sulzer has decided to retain Dr. E. H. Porter as head of the state health department, altho his term expired January 1. The governor has been convinced that the senate will not confirm any democratic nomination he may

make now, so he has decided to let the present occupant, a republican, remain for the balance of the term. The health commissioner gets a salary of \$8,000 a year under the new law.

State Fair Purposes.—The state fair commission has offered over \$40,000 in purses for 19 races at the state fair, and a still larger sum will be divided among the winners as a result of scheduling the free-for-all trotting sweepstakes.

Our "Delinquent" Farms.—Past Master E. B. Norris, of Sodus, has been appointed by the governor as agent for the unoccupied or "delinquent" farms of the state. Probably it is the purpose of the governor to have these farms examined and to determine what is the best thing to do with them. There is one thing a good many people would like to know about these farms, and that is the truth.—New Yorker.

COUNTY NOTES

Steuben Co., N. Y. (S. W.), June 30.—Good growing weather. All crops look good but a little backward for the time of year. Eggs, 20c; butter, 30c; strawberries, 12c@13c qt. Haying will be late. No fruit on account of frost. Oats bid fair for a good crop, but straw will be short. Ensilage corn is growing fine but small.—G. W. Rowley.

Lebanon Co., Pa. (S. E.), June 28.—Warm and sultry. Live stock is in good condition. Pasture is short and butter is becoming more scarce. Wheat crop is good and about ready to cut. Hay will make only half a crop. Corn looks good, but is backward. Too dry for potatoes. Butter, 35c@40c; eggs, 25c; wheat, \$1; potatoes, new, \$1.10; corn, 70c; hay \$15. Farm work is well advanced.—Wm. J. Bean.

Ocean Co., N. J. (C.), June 30.—Warm and dry. Good milk cows, \$60; six-week-old pigs, \$60; per pair. Hay crop short. Grain fair and most of it in shock. Pasture is short, due to lack of rain. Farm work is well up, owing to light hay crop. Farm help scarce. Corn is in good condition; greater acreage than last year and good prospects for excellent last year's crop.—C. M. Rorer.

Venango Co., Pa. (N. W.), July 1.—First part of June cold and dry; latter part warm and wet. Live stock scarce and high but looking well. All crops, except fruits, have good outlook. Fruits suffered from frost the first part of the month. Butter, 25c lb.; eggs, 25c doz.; live chickens, 15c lb.; veal, dressed, 12c lb.; spring lambs, 5c lb. live weight. Farm work well along. Heavy rains have washed roads and fields badly. Many houses and barns damaged and much stock killed by lightning.—W. J. Pringle.

Luzerne Co., Pa. (E. C.), June 30.—Weather fair with local showers. Live stock scarce. Hay a short crop; wheat and rye only medium crop; corn and potatoes looking fairly good. Rye, 70c; wheat, \$1.10; corn 70c; oats, 50c. Farm work advancing fairly well; some hay being made.—N. C. Brown.

Chautauque Co., N. Y. (S. W.), July 1.—Warm; showery. Stock rather high. Cows, \$60@75; horses, \$100@300; pigs, \$4 each; chickens, live, 18c; hens, 13c; pigs, dressed, 11c. Crops looking well, except hay, which is short. Fruit fair; grapes estimated at 75 percent of crop; cherries two-thirds crop; currants and gooseberries and berries good. Farm work well in hand generally. Help scarce and high. Oats looking well; corn fair; potatoes looking well.—J. L. Barber.

Warren Co., N. J. (N. W.), June 28.—Weather hot and dry. Very little rain. All stock high. Oats short. Grain looks fair. Corn looks good and growing fast. Hay making and tending corn now in progress.—V. R. Loller.

Water Systems.—No single feature in house equipment means greater comfort to the family and greater convenience to the over-worked mother than a simple and efficient water system. When the manufactured outfits were both high priced and imperfect, there was some excuse for carrying water from a spring or swinging a bucket from the well. But with the "systems" now readily available, it is a waste of valuable time as well as energy to continue with the old methods. The Simplex Water Works, Baltimore, Md., is making a special offer in the sale of a very complete line of water works supplies, outfits, etc. Full particulars will be supplied free upon request. Write them for new catalog and selling plan No. 27.

A Dash at Opportunity.

By EDGAR FRANKLIN.

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To some of us—perhaps to nearly all of us—there comes, at times, a stage when, in the vernacular, we do not care a continental. At that stage young Dr. Kecey had arrived.

Kecey—and even he himself was beginning dimly to suspect it—had almost done trying. A chemist, trained to rare fineness and education into what seemed unnecessary erudition, his infatuation for science was passionate; the gall-like taste or unrequited love, then, was bitter in proportion.

For science had been distinctly unkind to Kecey, either of her own free will or because commercialism forced her. When Manning, Hayes & Manning and the four other firms banded together to form the chemical trust and shut down three of the five factories, it grew obvious that at least two of the superintendents would be cast into outer darkness.

Kecey was one of the two.

A matter of eighteen months had elapsed since that fatal consolidation—eighteen moons of wearisome, impetuous, dignified search for the proper berth. Kecey's wife, who held an opinion of his worth and ability superior even to his own, still urged the prosecution of the battle to the very last ditch; and toward the end, that alone had kept Kecey going.

An insurance payment was preparing to fall due as well, and Kecey—whose scientific nature concealed an inherently thrifty soul—took, almost unconsciously, to walking under ladders, intercepting funerals, lighting his pipe on trolley tracks, lingering in the paths of motor cars, and otherwise tempting that pleasant destruction which meant ten thousand dollars in cash to the woman who bore his name.

In vain. He seemed accident proof. Palpably, the Lord had a purpose in preserving the unity of Kecey's breath and his body; and Kecey, as he sat in Braithwaite's private office, wondered vaguely what it was.

If you are acquainted in the heavy chemical trade, you know Braithwaite, of Braithwaite & Co. You know the maddening prosperity breathed forth from every line of his richly simple person; you know the half-humorous, quizzical little way in which he can regard you thru his gold-bowed, skeleton pince-nez.

That was the way he persisted in regarding Kecey, who was smoking one of Braithwaite's pet cigars and mentally endeavoring to recall the date that similar tobacco had last reached his palate.

"The vacancy is there, Dr. Kecey," he repeated—it was the second or third time the conversation had worked around to that point—"and again, it is not. As I said, the general superintendent of our works leaves on the first, and we have not definitely closed with anyone for his place. But—"

Braithwaite's low, pleasant voice trailed off.

"Fannington?" inquired Kecey, rather bluntly.

Braithwaite smiled slightly.

"Well, we have been strongly considering making an offer to Mr. Fannington. He is, you know, the recognized expert on the lines we manufacture."

"He is also," said Kecey, "an expensive luxury."

"Yes—Fannington's services bring a good price. We believe that they are worth it."

Something in the prospect of Fannington, arrogant prince of industrial chemistry, walking into the position he himself so strongly coveted, set Kecey's teeth agait.

"Do you know his present salary?" he inquired.

"Twelve thousand dollars, I believe."

"And to secure him you'll have to bid over that."

"Undoubtedly."

Twelve thousand dollars! Twelve thousand of them! And Braithwaite would have to add another thousand or two to that!

Professional dignity began to evaporate in Kecey's bosom; the older spirit of barter cropped up.

"Mr. Braithwaite," he said, "Fannington is unquestionably one of the finest chemists in America. Similarly he is one of the highest-priced. To secure him you will probably have to make a contract for fourteen thousand dollars. Wouldn't it be worth your while to try me out in that same place at seven thousand—say for just two months?"

Braithwaite again permitted himself that amused little smile.

"It was not altogether a question of strictly professional standing in Fannington's case. We have taken into consideration his personality, which is well known and rather important to us."

"You must bear in mind, Dr. Kecey, that the general superintendent of our system of works must be to the last degree a proved executive—a man aggressive to the point of daring, one might almost say. A person who will use absolutely any and every means at his disposal, where the welfare of the firm is concerned—in other words, one who, without stopping to consider until the opportunity has passed, will snatch upon the instant every little chance for improvement, for making or for saving money for his employers."

It was a considerable speech. Braithwaite paused for an instant and concluded:

"Mr. Fannington we know to possess all these qualities, whereas—they are very difficult to find elsewhere."

Let it be confessed that the words almost escaped him: "whereas it is very evident from your appearance and circumstances that you do not."

Kecey sighed. Privately, and with perfect justice, he considered himself as well fitted for this particular post as the exalted Fannington; but—well, like all other openings in the past year and a half, it was not for him.

In silence he chewed his cigar for a moment; then arose.

"If, however—"

"Any other opening should appear in which we could use you, we will keep your application in mind and advise you," finished Kecey tartly, and with scant regard for diplomacy.

Braithwaite, who knew human nature, shook his head good humoredly.

"Really, I am very sorry indeed, Dr. Kecey. I wish sincerely that you had proven or could prove your peculiar fitness for the position—candidly I do, but you will understand that our general superintendency is not a proposition to be juggled with—"

"I understand," said Kecey, and moved toward the door.

Half way across the room an idea arrested him. He was rather too poor nowadays to stifle. He reddened slightly as he turned back.

"You have no analytical work that

requires attention, have you?" he asked.

"Analytical work? Well, most of our analyses are made at the factory—have been, at least, until very recently. Our chemical force is temporarily crippled, you know. Analytical work—hum!"

Kecey waited patiently. Braithwaite for a moment stared at a wide-mouthed bottle on his desk. It was filled with white powder, and finally he picked it up and shook it thoughtfully.

"Doctor, here is a sample of alkali. It was taken from an immense job lot of nearly seventy thousand tons."

"Yes?"

"We are, as you probably know, one of the largest alkali consumers in the country. Naturally, this lot was offered us first—at an extremely interesting price, I must say."

"It is to be sold for spot cash by the present holders, and I have an option on it until five o'clock this afternoon. At that hour, the owner will be here for his money or a refusal. Practically, we have decided to take over the lot. Suppose that you take an ounce or two of this—are you engaged for the afternoon?"

"Not this afternoon," said Kecey dryly.

"Well, then, suppose you take a sample and run thru it—see if it's right in all particulars, you know."

"Mr. Braithwaite, you haven't been contemplating this purchase without having an analysis made?"

"Hardly. It was sent to Dr. Townsend."

"And he reported it O. K.?"

"He was asked only to estimate the alkalinity, you know. He reported it to be just what they claimed—56 percent."

It was rather too much like throwing a bone to a hungry dog. Kecey flushed again.

"If Townsend has passed on this—"

Braithwaite faced him with that strong, calm expression which has so silencing an effect.

"As I said, Townsend reported only on the percentage of alkalinity. When you spoke, it occurred to me that I should really like to have a complete analysis of the stuff before purchasing."

A ship-up on so large a batch would be rather serious, you know. I don't profess to know a great deal about the laboratory end of chemistry, Dr. Kecey. Could you manage to run thru it between now and five?"

Kecey stifled a little sigh—it meant a ten-dollar bill.

"I think so," he said.

He watched absently as Braithwaite shook out a portion of the stuff and ran it into a smaller bottle. The episode was like a great many recent ones; he had asked for bread and they had given him a very small chip, and from someone else's store, it even appeared.

"Now, let's see."

Braithwaite held forth the bottle and looked at his enlir.

"The presumption, of course, is that all is as it should be. If that proves to be so—why, I won't expect to hear from you. If not, let me know before five—but be sure that it is before five."

"Very well. I'll 'phone down."

"Yes—er—"

"I hardly know whether you will, doctor. Our wire has been out of commission for the past two or three hours. Still, I suppose they'll have it in shape long before five."

"Yes, we'll leave it in that fashion. Make as thorough an examination as possible in the limited time."

"I will," said Kecey, in the colorless tones of undisguised disappointment.

In Kecey's year at Columbia there

had been a youth by the name of Belden, son of an absurdly wealthy widow mother, and his own fast friend.

As the serious pursuit of life, Belden had adopted with startling success the task of chemical research on independent lines; his laboratories, built out from the rear of the Eighty-first Street residence, are a marvel of completeness.

Furthermore, they were Kecey's to use when and as he chose; and altho he did not often avail himself of the privilege, he headed thither thankfully enough in this instance; for while Kecey's pride was no longer at a premium, it still retained enough substance to prevent his entering one of the large down-town laboratories and humbly requesting the use of such apparatus as would be necessary for the work.

Lunch hour had passed when Kecey rode up-town; but he ignored it easily; in fact, he had acquired a way of forgetting meal times whenever convenient. If Belden could clear a spot for him, it would be a reasonably successful day.

Belden, he learned presently, was out. The mother, as well, was absent. The Jap butler, who knew Kecey, tried the door of the laboratory wing and found it secured—the keys were an unknown quantity.

Probably Belden had them; he was expected momentarily to return.

Kecey accepted the plight philosophically and found his way to Belden's den.

He would wait for him until three P. M. at that time, it would still be possible by rough and tumble, breakneck methods, to conduct a fair examination of the alkali; after that—out of the question.

The clock had proclaimed the hour of half-past four when the laboratory door opened and Belden, in his shirt sleeves, walked forth.

Within the apartment Kecey was revealed, untying his apron with one hand, reaching for his coat with the other.

"Their number's four-four-something or other, Broad, Dick," he called. "Get Braithwaite himself on the wire."

Some few seconds later he followed his friend into the library and stood at Belden's elbow. A frown rested on that gentleman's brow and he snapped irritably at the telephone's black mouthpiece.

"What? What's that, Central? Yes, Broad. What? Hello! Hello! Yes, I want—what? You can't? Why not? Oh!"

He turned blankly to Kecey.

"Wire's not working yet!"

"Oh, hang it!" exclaimed the chemist.

Belden jumped to his feet.

"Never mind. I'll ring up a messenger. Ned."

"With wings?"

"Eh?"

"It's twenty minutes to five now. How the dickens is a messenger going to get here and then down to Nassau Street in that time?"

"Well—is it so imperatively five o'clock?"

"That's the time Braithwaite stated, and things run by clockwork in that firm."

"Humph!"

Belden scowled and bit his lips in deep, rapid thought. Kecey, buttoning his coat and mechanically filling his pipe, racked his brains.

It had suddenly become of vital importance to communicate with Braithwaite before that alkali deal was closed. What earthly way was there of communicating? Who had offices on the same floor, or even in the same building with Braithwaite?

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To save his life he couldn't recall a name. If Braithwaite was only located at "Hundred William Street" or in the Broad Exchange, where most of the chemical people herded, he would have known at once a dozen friendly firms whose wires he could use; but down in that confounded Nassau Street office building—

"See here, Dick," he said hurriedly, "there's no way but for me to take a car and risk it. If I make the place in time it'll save 'em—"

"You're right. It's one chance in a thousand now, but it's your only one. The Lord be with you, old man!"

As the door closed, Kecey broke for Madison Avenue at a full run.

Then, quite spasmodically, he slowed down, took a few halting steps and stood stock still. For an idea—a mad idea—in that instant had been born.

Abreast the curb stood a massive automobile, a touring car of approved and high-power type; formidable on occasion, perhaps, but alone and unprotected now.

Attempting the down-town trip on the surface car was plainly not feasible; eliminating that element of foolish hope, he would arrive at Braithwaite's between quarter and twenty minutes past five—too late.

Assuming that Braithwaite, as he had said, meant to pay out good money at that hour for the batch of alkali, how much would he lose? Something well into four figures, Kecey concluded.

Having reasoned thus and found himself right, sane and voluntary action seemed to suspend.

After a fashion Kecey understood automobiles; at least, with Providence on his side, he had succeeded in operating Belden's car more than once.

This machine looked greatly like Belden's, altho he was aware that it was not. There should have been a place for a crank; it was there. There should have been a crank; it lay on the floor of the car.

Kecey, with never a backward glance, seized it, fitted it into place, and gave a powerful twist. A hoarse, delightful coughing within the bonnet was his sweet reward.

That coughing, however, meant danger and disaster within the next thirty seconds were it not removed from the immediate vicinity. Kecey leaped lightly into the seat of the absent chauffeur, got his feet into position, and grabbed at what would have been the starting lever of Belden's machine.

His success was amazing. The great car, with its uniquely smooth, rushing motion, glided away eastward and nearly unseated him.

He gripped the wheel and worked the bulb with emotional fury. It was do or die now!

A car slowed down to give him unquestioned right of way. Kecey, too, relaxed his speed a trifle and took the corner with a swirl that cost him his superannuated hat.

Somewhere behind, he had a faint impression that a foolish person who wore a brown beard was indulging in fruitless shouts; but Kecey was careering gaily down Madison Avenue on the craziest adventure of his staid existence. For it had been a very staid, very monotonous existence.

He realized that rather suddenly as the streets began to flit by. It had been work and work and hope and plod, and the element of what he termed "ginger" had been entirely lacking.

Now it had awakened with a glorious whirl! He had developed that masterful way of doing things which Braithwaite mentioned; he was going to make that office before five and save a considerable amount of money and trouble for Braithwaite, or go to jail.

Very possibly he was in for both. It

it no small matter to spirit away a large imported automobile.

But the ethics of the case were for future settlement; Kecey's main consideration was keeping to the road and avoiding murder of the slow and unwary. His pulses throbbed, his soul leaped up and sang, his eyes contracted to a maniacal squint.

A distance to the right, flitting glimpses of green from the Park checked off the blocks. He tried to read the signs at the corners—he perceived that he was out of the Seventies and into the Sixties. Yet he seemed hardly to have started.

At the risk of annihilation, he turned for a backward glance. With some warrant he expected pursuit, and he was not at all disappointed.

The galloping horse of a mounted policeman pressed along his trail—a motor policeman just then was striving for a lead of the officer. Far, far off, it appeared, people were running and waving their hands; other people halted along the sidewalk and stared at the flying car.

Edward Gordon Kecey, Ph. D. and several other things, laughed aloud in triumphant glee. He was leading the field and doing it in a walk!

Plainly, he had but two elements to fear—a collision and a block. The former would probably settle definitely the insurance matter.

The later, of course, meant ignominious defeat for two minutes' stoppage would doubtless enable the pursuit to overtake him.

But the way ahead remained fairly clear. Footed things and wheeled things saw to that most obligingly.

He grew accustomed to the spectacle—a hurried glance, a frantic jerk of the reins or twist of the wheel, and lo, Madison Avenue was open to him!

He had a fine fighting chance, for he had covered all of thirty blocks with out pause and without knocking anyone into eternity.

People had such an absurd way of commanding him to stop. Almost at block intervals, officers would step fairly into the roadway and shake fists and clubs at him.

Kecey was perfectly confident that they would step out again before the car arrived; he shouted merry defiance at them as he sped by and pumped more strenuously at his horn.

Presently, however, he gained the impression that the Grand Central and Forty-second Street were being moved up-town at rather a rapid rate. He knew that thoughtfully perfectly and declined to risk crossing it at that point. He slowed down and made for Fifth Avenue, and dashed on again.

Going was not quite so rapid here. Vehicles were annoyingly numerous; and altho in his present mental attitude it would have amused him hugely to slip off a wheel here and there or pile up an occasional trim little delivery wagon, Kecey felt that a policy of care and consideration for others would better serve his ends.

If the congestion retarded him, it retarded the pursuit as well. With Forty-second Street behind, he snatched another lightning survey of his wake.

Some three or four blocks back, there was indisputably excitement. He caught the hobbling view of a police helmet—the mounted officer was gaining rapidly.

Ahead, the way was closing. A surface line intersected the avenue, and the carriages were almost a solid line across. There was a gap, tho—a perilously narrow aperture thru which no one essayed to pass—just before a standing car.

Kecey turned his wheel and put the machine for it. Onlookers held their breath and waited for the crash.

The great automobile rolled merrily

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"That's the damned maniac," he shouted.

"Conklin! The—"

"The fellow stole my touring car. Braithwaite—he—"

Braithwaite held up a hand. There was a queer, humorous twinkle in his eye.

"Just a moment, Conklin," he said suavely. "I think that perhaps—"

Kecey opened his mouth to speak.

"Er—Dr. Kecey, suppose that you step into my private office for a moment. You don't mind, do you?"

Kecey, who, if the truth be admitted, was striving to conquer a aspen-like tremble of reaction, waited in the private office. The low hum of voices reached him; he made no effort to distinguish words.

From the bottom of his heart he was thankful for the stanch immobility of the big leather chair which relieved a gratefully his shaking legs.

Braithwaite, entering presently, seated himself silently at the broad mahogany desk; for a second or two he played with a paper-cutter, and the humorous twinkle worked down to his lips and set them twitching.

"Er—doctor," he began, and, as he turned, mirth was shaking every inch of his trim body; "I must thank you for saving us as you have. You understand, of course, that in addition to the money loss, the inconvenience of having to dispose of that immense lot of poor stuff would have been simply infernal."

A fragment of low, smooth laughter rippled forth.

"I want to congratulate you on the energy with which you executed our little commission, Dr. Kecey—the amazing readiness, I may say, with which you utilized the means at hand—even to the length of borrowing a \$15,000 car."

"More than that, I want to commend the exquisite tact and forethought which prompted you to select the automobile of one of my personal friends—that, even if unconscious, was a master stroke. I spoke this morning of certain qualities possessed by Mr. Fannington."

He halted and sobered, and Kecey, moistening his lips, managed

"Yes?"

"Everything considered, I am forced to believe that you may develop those same qualities to a high degree. And er—well—in short, doctor, within the last few minutes I have come to think that we need you in our business!"

"The—the general superintendency?" inquired Kecey huskily.

"The general superintendency," said Braithwaite. "And hang me, sir, if I don't believe you'll fill the place to our entire satisfaction."

A suspicious film seemed to be coming over Kecey's eyes. He had lauded it at last, after all the months of disheartening search and almost privation.

Braithwaite turned away, and busied himself for a tactful minute or two.

"There's an incorruptible officer in the next room, doctor," he said. "I tried to head him off, but it's useless. You're slated for arrest on the charge of speeding, and he's waiting for you out there in the next office. Suppose you surrender yourself? I'll go along and furnish bail, and we can dine afterward and settle a lot of details—oh?"

And Kecey, with a mien slightly unusual in a man walking to certain arrest, almost skipped to the door, threw it open and called cheerily:

"Here I am, officer. Come along and do your duty!"

over the crackling fender, saucily scraped paint from the dashboard of the car—and rolled on. The gap closed; and Kecey, gulping down the heart that sought exit thru his throat, put on speed once more.

From that point onward, it was dodge and turn and dodge again—twice around once more and rush thru new streets. His progress had been telephoned ahead—he realized that shortly by the vision of a quartet of policemen across his path, and took another corner.

He himself was unaware of the precise course he intended to travel; obviously, then, the officers were in a similar predicament, and unless they established a cordon straight across the city, the odds were against their catching him.

His final hilarious spurt came in Center Street. Behind, one bulldog pursuer still clung to him—an electric cab with an officer and another person leaning anxiously out.

This latter wore a beard, and beards are not precisely rare in New York; but intuition told Kecey that this bearded person's interest in his motor car was more than perfunctory—that, in short, he was very possibly the owner or a connection of the owner's.

He chuckled again as he pondered the gentleman's probable sentiments, cleared a path past the Bridge entrance with his horn and roared into the narrow ravine of Nassau Street.

Before a mountain of white stone the car suddenly halted. The persistent cab was a scant block behind—but the express elevator had swallowed up Kecey and was whizzing him toward the tenth story.

A shrewd-looking person sat beside Braithwaite's desk. That gentleman himself was blotting the freshly inscribed signature to a check.

The door burst open, and a hatless, breathless, disheveled man of thirty or so, bright-eyed and red-checked, shot in with dramatic suddenness.

And the City Hall clock could be heard faintly striking the hour of five!

"Well—Dr. Kecey!" Braithwaite was almost startled.

"You haven't done it yet?" inquired Kecey, with calmness belied by his appearance.

"I have not—"

"You haven't paid for the job lot of alkali?"

"Eh? What's that, doctor?" Braithwaite's eyes narrowed.

"Then don't! There's not 30 percent of pure alkali in it! The sample has been carefully doctored with lye or something of the sort. Even at the figure you were considering, it would be a thundering loss!"

"Say, look here!" the shrewd person interposed.

"That's right, Braithwaite—I'll swear to it. And—er—well, your wire is still out of order, and it became necessary for me to borrow an automobile in order to reach here on time. Incidentally, I may add that pressure of business prevented my asking the owner's permission, and that he may be somewhere in the neighborhood just now. So if—"

There was a rumus in the outer of fee, a sound suggestive of the ruthless brushing aside of an office boy. Once more the door opened suddenly and, preceded by a policeman, the business calm of Braithwaite's office was further disturbed by the entrance of a bearded, red-faced, and very angry gentleman.

Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., July 7, 1913.
There was little trading in butter and most of the creamery and printers were put in store for receivers' accounts. Strictly fresh eggs sold quickly at firm prices. Market liberally supplied with unattractive stock, which was dull and irregular in value. There was little trading in live poultry, but the market was quiet on dressed poultry. The vegetable market was dull and without important change.

Butter.—Western creamery, 30c; extras, 28c; firsts to seconds, 25c@27c; special prints, 34c@37c; near-by prints, 31c.
Cheese.—New York, full cream, 15 1/2c; do. fair to good, 14 1/2c@15c; Swiss No. 1, 19c@20c; Swiss No. 2, 16c@18c.
Eggs.—Handled, 25c@27c; extras, 23c. Current receipts at \$5.70 per standard case.
Poultry.—Fowls, 16c@16 1/2c; old roosters, 11c; spring chickens, 15c@16c; ducks, 14c@15c; geese, 23c@24c.

Dressed Poultry.—Western fowls, 15 1/2c; roosters, 13c; chickens, 18c@19c; squabs, 25c@26c.
Vegetables.—White potatoes, choice, \$1.25 @1.65; lb. Onions, 40c@45c; basket. Cucumbers, 75c@80c; string beans, 25c@30c; bush. Peppers, \$1.50@2.00; carrier. Tomatoes, \$1.25 to 1.75; carrier. Watercress, \$1.00 to 1.50 per 100 lbs.
Fruit.—Apples, choice varieties, \$1.00 @1.75; basket. Strawberries, 15c@20c; lb. Blackberries, 6c@10c; cherries, 6c@14c; lb. Gooseberries, 10c@12c; lb. Currants, 10c@14c; lb. Peaches, 17c@30c; 60c carrier.

Hay and Grain.—No. 1 timothy, new, 16.50@17.00; No. 2, 14.00@15.00; No. 3, do., 11.00@12.00. No. grade, 8.00@9.00. Clover mixed, No. 1, 12.50@13.00; No. 2, do., 10.50@11.50. No. 1 tangled rye straw, 14.50@15.00; No. 1 wheat straw, 8.50@9.00; No. 1 oat straw, 9.50@10.00. New shelled corn, No. 2 yellow, 69 1/2c@71c; No. 3 yellow, 68 1/2c@69c. Winter milling wheat, \$1.01@1.03; No. 1 northern, \$1.01 1/2c@1.02 1/2c; No. 2 white oats, 47 1/2c@48c. Strand and white, 46c@47c; No. 3 white, 45 1/2c@46c.

Hides and Skins.—Steers, albatrois, 15c@16c; do. country, 14c. Cows, country, 12 1/2c. Hubs, albatrois, 12 1/2c; do. country, 11 1/2c. Calf skins, No. 1, 10c to 12c and up, \$1.45@2.45; do. green, 13c@14c.

Coffee.—B. 94c; Santos, 48c, 11 1/2c. Mild Coffee—Cordona, 18c@18 1/2c.
Provisions.—City beef, smoked and air-dried, 25c@28c. Beef hams, 34c@36c. Pork, family, 22c@23c. Ham, cured, 15 1/2c@16c; skinned, 17 1/2c@18 1/2c; smoked, 19c@21c. Other hams, smoked, city cured, 18c@19c. Brand, 18c@20c. Picnic shoulders, 10 1/2c@11 1/2c; do. smoked, 13c@13 1/2c. Bellies in pickle, 15 1/2c@17c. Breakfast bacon as to quality, 20c@22c. Canned, 11 1/2c@12 1/2c; do. in tins, 11 1/2c@12c. Do. kettle-rendered, 11 1/2c@12c. Tallow, prime city, 6 1/2c@6 3/4c; do. country, 6 1/2c; do. dark, 5 1/2c; do. cakes, 7c.

Sugar.—Cut loaf, \$3.30 cwt.; cubes, \$4.70 @4.75; powdered, \$4.50 cwt.; granulated, \$4.45@4.50; standard granulated, \$4.50 @4.55; crystal A, \$4.50.
Flour.—For 100 lbs. in wood, winter clear, new, \$4.15@4.40; do. straight, new, \$4.50@4.65; favorite brands, \$5.25@5.60. Rye flour, Penna., \$3.50@3.75.

BALTIMORE PRODUCE

Baltimore, Md., July 7, 1913.
Flour was quiet in Baltimore wholesale markets. Wheat was easier, closing 5c to 1/2c lower. Corn closed dull. Hay and butter were steady and prices were firm. Poultry continued steady and fruits and vegetables moved easily at steady prices.

Butter.—Creamery, 20c; do. choice, 27c@28c; prints, 29c@30c; blocks, 28c@29c; Maryland and Penna. rolls, 26c@27c. Process, 24c@26c.

Eggs.—Md. and Penna., firsts, 20c; western, 20c; southern, 19c.
Live Poultry.—Fowls, 17c; chickens, 17c @18c; old roosters, 10c@11c. Ducks, 12c @13c. Geese, 14c@15c.
Vegetables.—Potatoes, white, 75c@81 1/2c; lb. Cabbage, \$1.50@1.50. Onions, 65c@75c; bas. Lettuce, 30c@40c; Peppers, \$1.50@2.00; squash, 30c@40c; basket. Cucumbers, 50c@55c; bas. Beans, green, 40c @50c; bas. Horse radish, \$1.50@1.75; lb. Root, 2 1/2c; Asparagus, \$1.25@1.50; doz. Green corn, 6c@12c; do. Radishes, 1c@1 1/2c bunch.

Fruit.—Apples, new, \$1.25@2.50; bbl. Blackberries, 6c@8c; qt. Peaches, \$2.00@3.00; crate. Raspberries, red, 10c@12c; qt. black, 6c@8c; qt. Pineapple, \$3.25@3.75. Cantaloupes, \$2.75@3.75; crate.

Grain.—Wheat.—No. 2 red western, 92 1/2c; spot, 92 1/2c. Corn, spot, 65 1/2c; contract, 61 1/2c. Oats, No. 2 white, nominal; standard white, 44 1/2c; No. 3 white, 44 1/2c. Rye, 60c@64c.
Hay and straw.—No. 1 timothy, \$17.50. No. 2 timothy, \$15.50@16.00. No. 3 do., \$12.50@14.00. Choice, mixed, \$14.50@15.00. No. 1 clover, \$11.00@12.00. No. 2 do., \$9.00@10.00. No. 1 tangled rye straw, \$11.00@12.00. No. 1 oat straw, \$9.00@10.00. No. 1 wheat straw, \$8.00.
Millfeed.—Spring bran, \$21.50@22.00. Middlings, flour to white, \$26.00@29.00; western middlings, \$23.00@23.50; city mills mid., \$24.00@24.50.

NEW YORK PRODUCE

New York City, July 7, 1913.
The demand in the butter market did not show much for higher prices. The market was land looking for fine stock in good condition and paid full rates when goods pleased. Butter arriving in New York in large quantities using storage product. Dressed poultry demand is slow. Vegetables are lower in most cases over last week.

Butter.—Creamery firsts to extras, 26c@27c; thirds to seconds, 23c@25 1/2c; factory, 21c@23; state dairy, 22c@24c; packing, 19c@21c; process, 22c@26c.
Cheese.—Whole milk, specials, 14 1/2c; do. common in fancy, 12c@13c; 14c@15c; 16c@17c; process, 22c@26c.
Eggs.—State and nearby, 23c@30c; fresh extra, 10c@25c; mixed, 19c@25c.

Dressed Poultry.—Fowls, 17c@18c; chickens, Penna., 21c; fowls, 16c@19c; old roosters, 12c@12 1/2c; ducks, 15c@20c; geese, 19c@22c.

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Live Poultry.—No prices settled.
Grain.—Wheat, No. 2 red, 96 1/2c; No. 1 Northern, \$1.00 1/4c. Corn, 68 1/2c. Oats, standard white, 47c@47 1/2c.
Vegetables.—Cabbage, 50c@52.50; crate. Green beans, 25c@1.00; basket. Carrots, \$1.00@2.00; bas. Cucumbers, 10c@25c; doz. Lettuce, \$1.00@2.00; bbl. Squash, 25c@50c; basket. Peas, 50c@1.50; basket.
Fruit.—Apples, old, \$3.00@5.50; bbl. according to variety; new, \$1.00@2.00; bas. Strawberries, 10c@17c; qt. Peaches, \$2.00@3.00; carrier. Cherries, 10c@15c; qt. Blackberries, 6c@13c; qt. Raspberries, 3c@9c; qt. Huckleberries, 10c@15c; qt. Gooseberries, 6c@14c; qt. Currants, 7c@9c; qt. Muskmelons, \$1.00@3.00 per standard crate.

BUFFALO PRODUCE

Buffalo, N. Y., July 7, 1913.
Butter.—Firm. Creamery, choice, 27c; choice dairy, 26c.
Cheese.—Steady. Fancy, 16c; good, 14c@15c.

Eggs.—Steady. State, fresh, 22c@23c; western, 19c@20c.
Live Poultry.—Steady. Fowls, 16 1/2c@18c; broilers, 18c@22c; ducks, 15c@16c; geese, 15c@17c; turkeys, 20c@21c; old roosters, 13c@14c.

Vegetables.—Potatoes, easy. Home-grown, 45c@50c; lb. Cabbage, \$3.00@3.25; crate. Onions, 40c@80c; sack. Beans, green, \$1.25 @1.50; ham. Turnips, \$1.00@1.25; bbl. Celery, 80c@1.00; doz. Spinach, 40c@50c; ham.

Beans.—Quiet, steady. Marrow, fancy, \$3.35@3.40; medium, \$2.30@2.50; red kidney, \$2.00@2.25.
Fruit.—Apples, new, \$2.50@5.25; bbl. Honey.—Firm. No. 1 fancy, 16c@17c; No. 2 new, 13c@15c; dark, 12c.

Hay.—Firm. Timothy, choice on track, \$16.00; No. 2 do., \$15.00@15.50; No. 3, \$14.00@14.50; light mixed, No. 1, \$13.00 @13.50; No. 2 do., \$12.00@12.50; oat and wheat straw, \$8.00@9.00.

Feed.—Steady. Spring bran, \$20.00; standard, \$19.00; No. 1, \$18.00@19.00; No. 2, \$17.00@18.00; No. 3, \$16.00@17.00; No. 4, \$15.00@16.00; No. 5, \$14.00@15.00; No. 6, \$13.00@14.00; No. 7, \$12.00@13.00; No. 8, \$11.00@12.00; No. 9, \$10.00@11.00; No. 10, \$9.00@10.00; No. 11, \$8.00@9.00; No. 12, \$7.00@8.00; No. 13, \$6.00@7.00; No. 14, \$5.00@6.00; No. 15, \$4.00@5.00; No. 16, \$3.00@4.00; No. 17, \$2.00@3.00; No. 18, \$1.00@2.00; No. 19, \$0.50@1.00; No. 20, \$0.25@0.50.

Grain.—Wheat.—No. 2 red, 96 1/2c; No. 1 Northern, \$1.00 1/4c. Corn, 68 1/2c. Oats, standard white, 47c@47 1/2c.
Vegetables.—Potatoes, new, 10c@15c; 1/2 peck; old, 8c@10c; cabbage, 3c@6c; each; lettuce, 2c@5c; heads, 3c@5c; bell, radishes, 2c@5c; onions, 3c@6c; lima beans, 12c @14c; qt. soup beans, 7c@10c; qt. sweet potatoes, 12c per 1/2 pk.; hard, 12c@15c; lb. celery, 3c@5c; rhubarb, 12c@15c; asparagus, 5c@8c; bunch; string beans, 6c@12c; per 1/2 pk.; peas, 10c@12c; per 1/2 pk.; cherries, 10c@12c; currants, 10c@12c; raspberries, 8c@12c; blackberries, 10c@12c; cantaloupes, 3c@5c; watermelons, 25c @35c.

Retail Grain Market.—Wheat, \$1.00; corn, 75c; oats, 55c; bran, \$1.15 a cwt.; rye, 65c; middlings, \$1.10 a cwt.; flour, 45c.
Wholesale Grain Market.—Wheat, 88c; corn, 68c; oats, 46c; rye, 55c.

WILMINGTON PRODUCE

Wilmington, Del., July 7, 1913.
New Jersey tomatoes have dropped about 6 cents during the week. Cantaloupes and watermelons, southern grown, are plentiful and are being sold at reasonable prices. Blackberries, raspberries and currants are still plentiful. Fresh cabbage from the local truck patches finds ready sale at 3 to 10 cents a head.

Fruit.—Apples, 50c@75c; basket; 20c a peck. Strawberries, 10c@20c; lb. Blackberries, 15c; qt. 2 for 25c. Raspberries, 15c @17c; goose, live, 10c@12c.

Vegetables.—Potatoes, new, 10c@25c; 1/2 pk. Cabbage, \$2.50; bbl. Onions, \$1.25; crate. Sweet potatoes, 60c; pk. Kale, 5c @10c. Lettuce, 8c@10c; bunch. Asparagus, 13c@25c; bunch.

Poultry.—Chickens, dressed, 18c@25c; Ducks, 16c@22c; lb. dressed, 16c. Geese, live, 22c.

Eggs.—22c; do. Butter.—Print butter, 38c@45c; lb. Creamery roll, 30c@35c.

WASHINGTON PRODUCE

Washington, D. C., July 7, 1913.
Eggs.—Near-by, fresh, per dozen, 21c; southern, per doz., 20c.
Cheese.—New York, new, per pound, 16c; flat, 16 1/2c.

Butter.—Best prints, per pound, 31c; tub, 30c; process, 27c; undergrades, 25c.
Live Poultry.—Hens, per lb., 16c; roosters, 10c; springers, 25c@27c; turkeys, 15c @17c; geese, live, 10c@12c.

Vegetables.—Potatoes, bbl., \$1.00@1.25; Onions, \$1.15@1.25; crate. Lettuce, per basket, \$1.50@1.75; bas. Beans, 25c@30c; basket. Peppers, per crate, \$1.25@2.50. Egg plants, 10c@15c; bunch. Mushrooms, per lb., 75c@80c. Carrots, 2c@3c; bunch. Sweet corn, 40c @50c; bas. Horse radish, \$1.00 per 100. Cauliflower, \$1.00@2.00; basket.

Fruit.—Apples, \$1.50@3.50; bbl. Cherries, 8c@20c; qt. Peaches, \$1.50@3.25; crate. Blackberries, 6c@12c; qt. Raspberries, black, per qt., 6c@12c; raspberries, red, per qt., 10 @14c.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., July 7, 1913.
A slight improvement in the market was noticeable in a general way the market ruled steady and the prices. The principal offerings were Lancaster County and Ohio stock.

Cattle.—Lamb. Total for week, 3,339. Previous week, 3,559. Rest steers, \$8.80@8.80. Good steers, \$8.80@8.80. Medium steers, 7.75@8.10. Common steers, 7.25@7.50. Bulls, 4.50@5.00. Fat cows, 6.30@6.60. Thin cows, 3.00@4.00. Milk cows, 4.00@7.00. Veal calves lower.

First calves, \$9.50@10.00.

Good to choice do., 7.50@8.00. Medium, 6.50@7.00. Common do., 6.50@7.00. Sheep, 4.50@5.00. The best lambs ruled a shade higher and sheep are steady.
Good wethers, 4.50@4.75. Common to medium, 2.00@4.00. Extra lambs, 8.25@8.50. Do to choice do., 8.00@8.25. Common to medium, 6.00@7.75. The hog market closed stronger at a straight rate.
City Dressed Stock.—Choice classes of dressed meats are steady. Trade is normal. Steers, 11 1/2c@13c; heifers, 11c@13c; cows, 6c@12c. Veal calves, 14c@16c; country-dressed calves, 14c@15c; extra do., 15 1/2c. Sheep, 9c@10c; extra wethers, 10c. Spring lambs, 14c@15c. Hogs, 12 1/2c.

PITTSBURGH LIVE STOCK
Pittsburgh, Pa., July 7, 1913.
With a cattle supply of 115 cars on sale last week, our markets ruled slow with prices about level on choice, dry-fed cattle and 10 to 15 cents lower on other grades. Fat cows were in liberal supply and all grades sold considerably lower. Choice heifers were steady; others lower. Bulls sold at the greatest decline of the year. Best fresh cows sold about steady; others very slow; lightweights today numbered 100 carloads. The market was stronger on best grades and steady to slow on others.
Good to choice, \$8.60@8.90. Good, 1300 to 1400 lb., 8.40@8.60. Heavy mixed, 1200-1300 lb., 8.20@8.35. Tidy, 1050-1150 lb., 8.20@8.35. Fair to medium, 900-1100 lb., 7.75@8.10. Light mixed, 800-900 lb., 7.50@7.75. Common to good fat cows, 5.00@6.00. Heifers, 700 to 900 lb., 5.50@6.00. Fresh cows and springers, 4.00@4.50.

Calves were in fair supply all week and with a good demand the market closed steady. Veal calves were active to 50 cents higher.
The supply of hogs was light during the early part of last week, choice with good demand for all weights the market closed about 20 cents higher on weight grades and 30 to 45 cents higher on light grades. There were 45 double-deck weight grades on sale today, and the market was 10 to 15 cents higher than last Saturday.
Prime heavy, \$9.15@9.40. Prime medium weights, 9.40@9.60. Heavy mixed, 9.30@9.45. Best heavy Yorkers, 9.40@9.50. Light Yorkers, 9.40@9.50. Common to good roughs, 9.45@9.50. Stags, 6.50@7.00.

Sheep and lambs have been in liberal supply all week. Sheep were steady to 25c higher for the week, while lambs closed steady with last Monday's prices. Arrivals today numbered 22 double-deck lots, all grades. The market was good and the market higher on choice sheep and spring lambs, while other grades sold steady.
Prime wethers, \$5.00@5.25. Good mixed, 4.25@4.60. Fair mixed ewes and ewers, 4.00@4.25. Culls and commons, 2.00@3.00. Spring lambs, 5.00@8.25. Culls to choice lambs, 3.00@6.00.

ELGIN BUTTER QUOTATION
Elgin, Ill., July 7, 1913.
The quotation committee of the Elgin Board of Trade this afternoon declared but firm at 26 1/4c a pound.

NEW YORK MILK QUOTATION
The wholesale price of milk is considered to be \$1.41 per 40-quart can for class C, class B, \$1.51. Official quotations have been established.

PITTSBURGH HAY AND GRAIN
Pittsburgh, Pa., July 7, 1913.
Hay receipts of the better grades continue light. Demand fair to good, showing a little more activity. Poor grades are not wanted. Oat and wheat straws are in excess of the demand, and the market is dull. No. 1 timothy, \$14.50@15.00; No. 2 do., \$12.00 @13.00; No. 3 do., \$9.00@10.00; No. 1 light mixed, 12.00@12.50; No. 2 do., \$11.00@11.50; No. 3 do., \$9.00@10.00. No. 1 clover, \$10.50@11.00; No. 2 do., \$9.50@10.00; No. 3 do., \$8.50@9.00. No. 1 rye, \$11.00@11.50; No. 2 do., \$9.50@10.00; No. 3 do., \$8.50@9.00. No. 1 oat straw, \$7.50@7.75; No. 2 do., \$7.25@7.50. No. 1 wheat, \$7.50@7.75; No. 2 do., \$7.25 @7.50; No. 3 do., \$7.00@7.25. No. 1 rye, \$11.00@11.50; No. 2 do., \$9.50@10.00; No. 3 do., \$8.50@9.00. No. 1 rye, \$11.00@11.50; No. 2 do., \$9.50@10.00; No. 3 do., \$8.50@9.00. No. 1 rye, \$11.00@11.50; No. 2 do., \$9.50@10.00; No. 3 do., \$8.50@9.00.

Vegetables.—Potatoes, new, 10c@15c; 1/2 peck; old, 8c@10c; cabbage, 3c@6c; each; lettuce, 2c@5c; heads, 3c@5c; bell, radishes, 2c@5c; onions, 3c@6c; lima beans, 12c @14c; qt. soup beans, 7c@10c; qt. sweet potatoes, 12c per 1/2 pk.; hard, 12c@15c; lb. celery, 3c@5c; rhubarb, 12c@15c; asparagus, 5c@8c; bunch; string beans, 6c@12c; per 1/2 pk.; peas, 10c@12c; per 1/2 pk.; cherries, 10c@12c; currants, 10c@12c; raspberries, 8c@12c; blackberries, 10c@12c; cantaloupes, 3c@5c; watermelons, 25c @35c.

Retail Grain Market.—Wheat, \$1.00; corn, 75c; oats, 55c; bran, \$1.15 a cwt.; rye, 65c; middlings, \$1.10 a cwt.; flour, 45c.
Wholesale Grain Market.—Wheat, 88c; corn, 68c; oats, 46c; rye, 55c.

WILMINGTON PRODUCE
Wilmington, Del., July 7, 1913.
New Jersey tomatoes have dropped about 6 cents during the week. Cantaloupes and watermelons, southern grown, are plentiful and are being sold at reasonable prices. Blackberries, raspberries and currants are still plentiful. Fresh cabbage from the local truck patches finds ready sale at 3 to 10 cents a head.

Fruit.—Apples, 50c@75c; basket; 20c a peck. Strawberries, 10c@20c; lb. Blackberries, 15c; qt. 2 for 25c. Raspberries, 15c @17c; goose, live, 10c@12c.

Vegetables.—Potatoes, new, 10c@25c; 1/2 pk. Cabbage, \$2.50; bbl. Onions, \$1.25; crate. Sweet potatoes, 60c; pk. Kale, 5c @10c. Lettuce, 8c@10c; bunch. Asparagus, 13c@25c; bunch.

Poultry.—Chickens, dressed, 18c@25c; Ducks, 16c@22c; lb. dressed, 16c. Geese, live, 22c.

Eggs.—22c; do. Butter.—Print butter, 38c@45c; lb. Creamery roll, 30c@35c.

WASHINGTON PRODUCE
Washington, D. C., July 7, 1913.
Eggs.—Near-by, fresh, per dozen, 21c; southern, per doz., 20c.
Cheese.—New York, new, per pound, 16c; flat, 16 1/2c.

Butter.—Best prints, per pound, 31c; tub, 30c; process, 27c; undergrades, 25c.
Live Poultry.—Hens, per lb., 16c; roosters, 10c; springers, 25c@27c; turkeys, 15c @17c; geese, live, 10c@12c.

Vegetables.—Potatoes, bbl., \$1.00@1.25; Onions, \$1.15@1.25; crate. Lettuce, per basket, \$1.50@1.75; bas. Beans, 25c@30c; basket. Peppers, per crate, \$1.25@2.50. Egg plants, 10c@15c; bunch. Mushrooms, per lb., 75c@80c. Carrots, 2c@3c; bunch. Sweet corn, 40c @50c; bas. Horse radish, \$1.00 per 100. Cauliflower, \$1.00@2.00; basket.

Fruit.—Apples, \$1.50@3.50; bbl. Cherries, 8c@20c; qt. Peaches, \$1.50@3.25; crate. Blackberries, 6c@12c; qt. Raspberries, black, per qt., 6c@12c; raspberries, red, per qt., 10 @14c.

PHILADELPHIA LIVE STOCK
Philadelphia, Pa., July 7, 1913.
A slight improvement in the market was noticeable in a general way the market ruled steady and the prices. The principal offerings were Lancaster County and Ohio stock.

Cattle.—Lamb. Total for week, 3,339. Previous week, 3,559. Rest steers, \$8.80@8.80. Good steers, \$8.80@8.80. Medium steers, 7.75@8.10. Common steers, 7.25@7.50. Bulls, 4.50@5.00. Fat cows, 6.30@6.60. Thin cows, 3.00@4.00. Milk cows, 4.00@7.00. Veal calves lower.

First calves, \$9.50@10.00.

Good to choice do., 7.50@8.00. Medium, 6.50@7.00. Common do., 6.50@7.00. Sheep, 4.50@5.00. The best lambs ruled a shade higher and sheep are steady.
Good wethers, 4.50@4.75. Common to medium, 2.00@4.00. Extra lambs, 8.25@8.50. Do to choice do., 8.00@8.25. Common to medium, 6.00@7.75. The hog market closed stronger at a straight rate.
City Dressed Stock.—Choice classes of dressed meats are steady. Trade is normal. Steers, 11 1/2c@13c; heifers, 11c@13c; cows, 6c@12c. Veal calves, 14c@16c; country-dressed calves, 14c@15c; extra do., 15 1/2c. Sheep, 9c@10c; extra wethers, 10c. Spring lambs, 14c@15c. Hogs, 12 1/2c.

PITTSBURGH LIVE STOCK
Pittsburgh, Pa., July 7, 1913.
With a cattle supply of 115 cars on sale last week, our markets ruled slow with prices about level on choice, dry-fed cattle and 10 to 15 cents lower on other grades. Fat cows were in liberal supply and all grades sold considerably lower. Choice heifers were steady; others lower. Bulls sold at the greatest decline of the year. Best fresh cows sold about steady; others very slow; lightweights today numbered 100 carloads. The market was stronger on best grades and steady to slow on others.
Good to choice, \$8.60@8.90. Good, 1300 to 1400 lb., 8.40@8.60. Heavy mixed, 1200-1300 lb., 8.20@8.35. Tidy, 1050-1150 lb., 8.20@8.35. Fair to medium, 900-1100 lb., 7.75@8.10. Light mixed, 800-900 lb., 7.50@7.75. Common to good fat cows, 5.00@6.00. Heifers, 700 to 900 lb., 5.50@6.00. Fresh cows and springers, 4.00@4.50.

Calves were in fair supply all week and with a good demand the market closed steady. Veal calves were active to 50 cents higher.
The supply of hogs was light during the early part of last week, choice with good demand for all weights the market closed about 20 cents higher on weight grades and 30 to 45 cents higher on light grades. There were 45 double-deck weight grades on sale today, and the market was 10 to 15 cents higher than last Saturday.
Prime heavy, \$9.15@9.40. Prime medium weights, 9.40@9.60. Heavy mixed, 9.30@9.45. Best heavy Yorkers, 9.40@9.50. Light Yorkers, 9.40@9.50. Common to good roughs, 9.45@9.50. Stags, 6.50@7.00.

Sheep and lambs have been in liberal supply all week. Sheep were steady to 25c higher for the week, while lambs closed steady with last Monday's prices. Arrivals today numbered 22 double-deck lots, all grades. The market was good and the market higher on choice sheep and spring lambs, while other grades sold steady.
Prime wethers, \$5.00@5.25. Good mixed, 4.25@4.60. Fair mixed ewes and ewers, 4.00@4.25. Culls and commons, 2.00@3.00. Spring lambs, 5.00@8.25. Culls to choice lambs, 3.00@6.00.

ELGIN BUTTER QUOTATION
Elgin, Ill., July 7, 1913.
The quotation committee of the Elgin Board of Trade this afternoon declared but firm at 26 1/4c a pound.

THIS PONY FREE!

WE WILL GIVE YOU OR SOME OTHER BOY OR GIRL THIS PONY WITH COMPLETE OUTFIT

"Peaches"

Is about the cutest little three-year-old Shetland pony we ever saw. The Pony Editor who has already selected 105 prize ponies, which we have given to boys and girls, picked him out of one of the largest Shetland pony herds in the United States. "Peaches" with his beautiful silky black and creamy white markings makes you think for all the world of nothing so much as "Peaches and Cream" and he is just as good as he is handsome. He is about 42 inches high and weighs around 300 pounds. Hitched to his noble pony buggy which we give with him he just steps right into the breast collar with his wide Shetland chest and will haul you and all your girl and boy friends that can pile in, up hill and down just about as fast as most big horses. Then if when you get him you want to take a canter across the fields and through the woods, just slip on his beautiful Indian bow-hair bridle and tighten up the dandy saddle (which we send too) and on you go of a horseback ride. If you send us your name and address and get "Peaches" you will have the handsomest pony outfit that ever came to your place and with all charges paid by us. You'll be the envy of every boy and girl in your town with "Peaches" and his dandy outfit, but if you want him you must send us your name and address today.



This is "Peaches"

The Outfit

The 105 children to whom we have already sent ponies and pony outfits are the nicest they ever saw. We wouldn't want to give you such a handsome pony unless we also sent you the best kind of an outfit to go with him. We send just the nicest kind of a four-wheeled pony buggy—one that "Peaches" can pull easiest, and one that you and also your father and mother can ride in most comfortably. The harness too sets off "Peaches" to best advantage and is a real Shetland pony harness. And we want to tell you about the wonderful Indian bow-hair riding bridle which we give to use with our special pony saddle. Don't believe you ever in all your life saw such a pretty bridle. It is made especially for us by an old cowboy at Deer Lodge, Montana. It takes him and his partner two whole weeks to weave the handsome colored bands—red, blue, yellow, white and black—woven into remarkable Indian designs and mounted with colored rosettes and the horse hair reins ending in a real cowboy quirt. No matter how many Circuses or Four Shows come to your town or no matter if some children of rich parents in your place happen to have ponies, nobody ever saw a prettier pony and pony outfit than "Peaches" and his, which we shall send to you or some other boy or girl. If you want this lucky boy or girl to be you, you must send us your name and address now.

Send Us Your Name Today

If You Want To Own "Peaches"

As soon as we hear from you we will tell you how to go ahead to get "Peaches". Don't let anybody persuade you that you cannot get this beautiful little pony because our plan of giving away ponies is different from others. The fact that we have already given 105 ponies to 105 boys and girls all over the United States from the state of Vermont to the state of Washington, many going over 1500 miles from St. Paul, is proof that we give ponies away. The banker or postmaster in your town knows that the Webb Publishing Co. of St. Paul, who have been in business over 30 years, is one of the largest publishing firms in the United States and can afford to give ponies to boys and girls to advertise our papers. We never heard of one of these 105 boys or girls until they wrote us they wanted a pony and you should send us your name and address at once if you want us to send you "Peaches" and his dandy outfit.



THE PONY EDITOR AT THE PONY FARM PICKING OUT "PEACHES" FOR YOU OR SOME OTHER BOY OR GIRL.

We Have Given Away 105 Ponies

Here are the Names of a few of our 105 Lucky Pony Winners

- | | | | |
|--|---|---|--|
| "Dapple," Ernest L. Heckert, York Co., Pennsylvania | "Beauty," Robert Decker, Allegheny Co., Pennsylvania | "Roline," Clarence F. Busiek, Adams Co., Indiana | "Busy," J. H. Albrecht, Jr., Camden Co., N. Jersey |
| "Patsy," Rena Smith, St. Lawrence Co., New York | "Chum," Basilio F. Thornton, Mercer Co., W. Virginia | "Toby," George Lynch, LaSalle Co., Illinois | "Dainty," Gladys Elwood, Franklin Co., Vermont |
| "Princess," Geneva Holt, Nicholas Co., West Virginia | "Brownie," Teviah Hart, Shelby Co., Ohio | "Cub," Eugene Munpower, Buncombe Co., No. Carolina | "Jewel," Arthur Marode, Douglas Co., Nebraska |
| "Toots," Isabelle Whiteratt, Balt. Co., Maryland | "Pippin," Doris Navarette, Fairfield Co., Connecticut | "Duke," Dorothy Laneing, Dixon Co., Nebraska | "Andy," Alfred H. Brown, Teton Co., Montana |
| "Heinie," Char. Niemoller, Bartholomew Co., Indiana | "Dixie," Walter McLaren, Moody Co., So. Dakota | "Scotty," Catherine Rohrbach, Pacific Co., Missouri | "Captain," Ida O'Keefe, Mountair Co., No. Dakota |
| | | "Bob," John P. Corn, Jr., Pulaski Co., Arkansas | "Jenn," Keith Walker, Juneau Co., Wisconsin |
| | | "Jim," Joey Edwards, Barton Co., Kansas | "Tramp," Clara Johnson, Douglas Co., Kansas |
| | | "Laddie," Leta Hainline, Adair Co., Iowa | "Dimple," Ida Schumaker, Rice Co., Minnesota |
| | | | "Robbie E. Notten, Chickasaw Co., Iowa |

NOTICE We print the names of 30 of our 105 lucky pony winners which we wouldn't have done if it were not true that we give away real live Shetland ponies. We haven't room to print the names of our whole 105 lucky pony winners but we will send you their names just as soon as we hear from you. Possibly some of these 105 lucky pony winners live in your county or some county near you and if so you probably know them because our lucky pony winners are now the best known children in their locality. However, it doesn't make any difference where you live if you send us your name and are the lucky boy or girl to get "Peaches," he and his whole outfit will be sent without one cent of cost to you. If you send us your name the day you read this we will send you 1000 free votes for "Peaches" and will send you a big surprise which will double your chances of getting a Shetland pony even if you fail to get "Peaches."

Each Contestant A Prize Winner

The Farmer's Wife will liberally reward all children who send their name and address and become a contestant for "Peaches" with cash or other valuable prizes of their own choosing. Besides the Pony Outfit and Twenty-five Grand Prizes we shall offer Gold Watches, Base Ball Outfits, Gold Bracelets, Fishing Outfits, Fountain Pens, Iland Bags, Flash Lights, Rifles, Shot Guns and dozens of other desirable prizes. Of course "Peaches" and his Outfit is the best prize of all, and you should not let anybody persuade you that you can't win him because you have the same chance as any other child. Every ambitious child should write The Farmer's Wife and get a chance on this wonderful offer. If you haven't any Shetland pony, you'll be sorry if you don't fill out the coupon for "Peaches" and mail it today.

Send Your Name Today

Our ponies are given away so quickly that you will stand a better chance to get this one if you sit right down and write us a letter or a postal card or send the coupon opposite filled out with your name and address (either way will be all right). The work we require you to do to become a contestant for "Peaches" is so easy that any boy or girl who could drive a pony can do it and any child who becomes a contestant will win a fine prize, even if he fails to win "Peaches" which is the best prize of all.

BE SURE TO ADDRESS YOUR POSTCARD OR ENVELOPE TO

THE FARMER'S WIFE

570 WEBB BUILDING, ST. PAUL, MINNESOTA



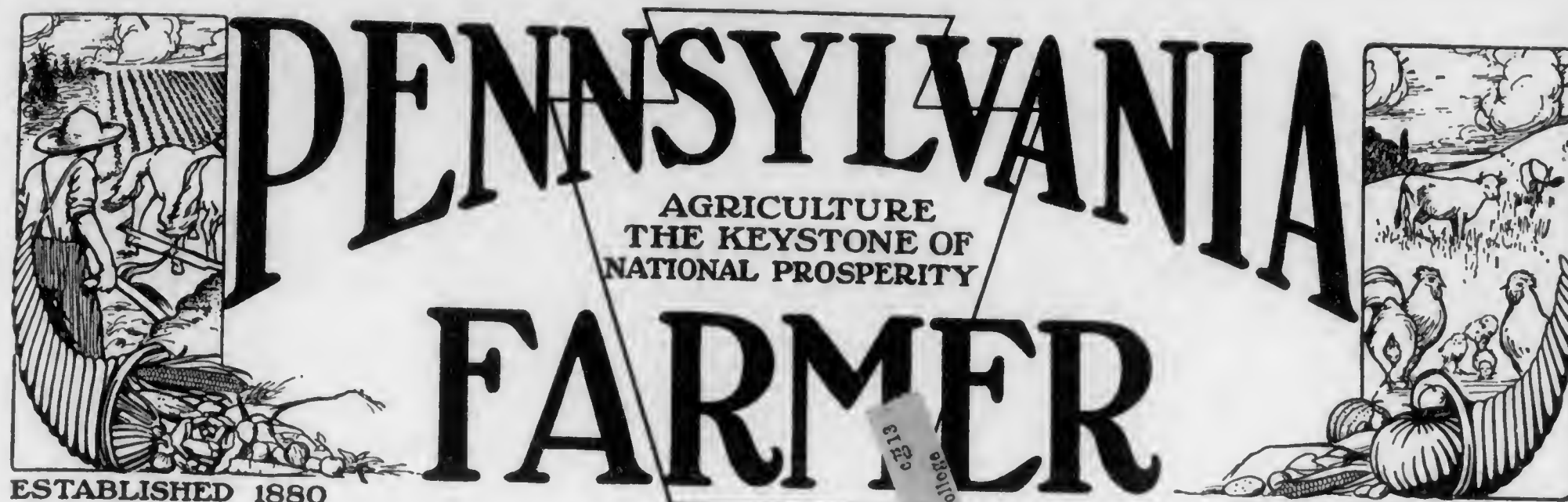
Write Your Name and Address Here

Name.....

R. F. D.

P. O. State

GOOD FOR 1,000 VOTES FOR "PEACHES."



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PUBLISHED WEEKLY

50 CENTS A YEAR.

Harvesting Alfalfa.

By H. M. ANDERSON, York Co., Pa.

There are a number of practices absolutely necessary to the successful growing of alfalfa. I shall not enumerate them here, but simply wish to state that if the rules which you read almost every month in some farm papers or bulletins are faithfully followed, almost any farmer can surely grow profitable crops of alfalfa. But when you are up against a problem for which there are no hard and fast rules. There is no "royal road to success" in hay harvesting, and no method of procedure that would be the very best way four times out of five.

If the farmer is ever a victim of circumstances it is in hay harvest time, and the first crop of alfalfa is usually the hardest hay crop that we have to save. In the first place, it is usually much heavier than clover or timothy. It must be harvested earlier in the season, when the sun is not so hot and the ground not so well dried out, and the stem of the alfalfa plant requires considerably more curing, while the leaves dry very quickly and shatter off badly if it is stirred up when very dry.

We must be influenced in deciding when to cut by the color of the crop, the percentage of bloom, the starting of sprouts at the base of the stalks and—the weather. Sometimes, owing to lack of moisture, fertility or inoculation, the crop turns a light yellow prematurely, and must be cut at once; but this does not happen frequently. Usually, when about 10 percent of the plants begin to show the purple bloom you will find several sprouts about one-quarter inch long at the base of most of the plants, and possibly some sprouts a couple of inches long at the base of some of the earlier plants. This is the ideal time to cut if the weather is not all favorable. If you cut

About eight years ago I made a fourth cutting on September 10 that cost me at least \$100 a huo dred weight in injury to the stand. From that season I had cut 16,200, 8,100 and 3,900 pounds of well-cured hay. This fourth cutting only amounted to 600 pounds, and in taking it I exposed the plants to the freezing and thawing of the following winter and I simply ruined the best stand of alfalfa that I ever had.

The earlier writers on alfalfa growing all advocated raking just as soon as the crop was well wilted, and claimed that the best of it was lost if we did not do so. I was growing it "by the book," and year after year I had the bulk of my crop

order to get it thoroughly stirred up before the sun can burn the surface leaves, and to keep the sun from shining too long at a time on any part of it. If the first day is a good hay day and the next one promises to be like it, I rake the second morning before it gets too thoroughly dry, and I feel that I lose very few leaves in this way. If the hay is not pretty well cured I ted it early the second morning and let it lie until the third morning before raking. It should not be raked or teded in the heat of the day, as a large percentage of the leaves will grind up and be lost. The hay is bunched after lying in light windrows for a few hours, and as much as possible of it hauled that evening. If, however, I have every confidence in the weather I sometimes let some of it sweat in the bunch over night and haul the next day.

Two years ago I bought 20 ten-ounce duck covers, 84x84 inches. I built trestles, about 18 inches high, and put three or four boards or stakes on each pair and tried curing under canvas. The hay was fairly well cured before raking. It was bunched at once and allowed to stand about 10 days. I put about 600 pounds in each bunch and when they were opened I found the center of the stack covered with white mould. This mould showed less when the hay was put in the mow and was scarcely noticeable when fed the following winter, but if I must cure it before I can stack it I propose to haul it when I get it cured, and my covers, most of them at least, are for sale.

I realize that my plan is rather unorthodox, but I have had a great deal better success since adopting it. Of course, a heavy dew bleaches alfalfa a bit, but it does not reduce its feeding value. Cattle will eat alfalfa readily when it has laid out thru a week of hard weather if it is well dried before hauling, and I believe it is still worth as much as bright clover. This spring our crop was shortened somewhat by the May and June frosts, but I have 18 or 20 tons of the brightest and greenest first-crop alfalfa that anyone could desire.



FOUR GOOD HORSES PROPERLY HITCHED FOR HEAVY FARM WORK.



MODERN HAYING EQUIPMENT SAVES TIME AND LABOR AND MAKES POSSIBLE A BETTER QUALITY OF HAY.

earlier, the ground lies bare and dries out and bakes while the sprouts are forming; while if you delay cutting very much, you will clip the top off the succulent crop when you do cut.

In this latitude in a good season we can depend upon three cuttings, but should never make more

even over the surface. So, during the past three or four years, I have tried to follow the following method:

I cut in the morning, just as soon as the dew is off, and start the tedder in three or four hours. I ted two or more times just as soon as possible, in

Note.—This experience with canvas is of interest at this time, as many alfalfa growers are giving attention to the merits and demerits of covers for curing their crops. We would like to have the experience of others in this matter, giving failures as well as successes.—The Editors.

Horticulture

SECOND CROPS FOR THE TRUCKER

After the strawberry and asparagus crops have been harvested there comes a few weeks before the ripening of tomatoes when the trucker is not so rushed with work. This time can be profitably used in the planting of second or follow crops. There are many crops that can be used for this purpose, but in this article I will mention only those that we have tried.

Late potatoes do well when planted on the sod of an old berry patch. This season we are preparing one field of about four acres, from which three crops of berries have been harvested, for late potatoes. It is usually unprofitable to keep a berry patch more than three years. The first year we harvested a fair crop of berries from this field, and after the picking season was over the harrow was run thru the middle and the weeds pulled out by Italians; after the second season, which gave the largest yield, the weeds were mowed and hauled off. Nothing else was done to the patch until this spring, when from 600 to 700 pounds per acre of a \$37 per ton fertilizer was spread on the rows. This year's crop of berries was somewhat over 100 crates, which were sold at a price averaging \$2.75 per crate, so that we received good rent for the ground the last year. This spring the grass began to come in so thick that the berries were being choked out, so that it would be useless to undertake to keep the patch over for a fourth crop. The problem has been to get a crop that would thrive on this sod so that it could be broken up for next year's garden crops. Of potatoes and corn, the two crops considered, potatoes were selected because of the probability of a greater financial return and also because they are less exhaustive to the soil than corn.

In preparing the old berry patch, we first mowed the grass, and after it had cured, hauled it off, using some of it for feeding purposes, since it contained a large amount of clover. The ground was then plowed with a three-horse riding plow deep enough to throw up enough soil so that it could be worked without throwing over the sod. The plow was followed by the Acme harrow. The use of the harrow alone or in connection with a roller is necessary in order that the sod be pressed firmly against the bottom of the furrow, thus insuring the presence of ground moisture should a drouth follow planting.

In order to get the potatoes in deep enough and at the same time not tear up the sod, we went over the ground three times with the marker, which left a deep, smooth-bottomed furrow for the seed pieces. We used from 600 to 700 pounds per acre of a 3.3-7-10 fertilizer, drilled in the rows. Planting was done the same as with the early crop. We are using the Housier variety, as it has been tried in this locality and seems to be adapted to this purpose, growing, as it does, uninterruptedly thru the heat of July and August.

Some truckers simply drop the seed pieces in every third furrow as they plow up their old berry beds; but unless the soil is very loose and the weather conditions are favorable, it is hard to get a good "come up" by this method; hence its use is not to be advocated, especially when seed potatoes are selling at the present prices.

If late sugar corn is used to break up the berry sod, Stowell's Evergreen Sugar is one of the best varieties. It should be planted before the first of July, as it is a long season variety. If the ground can not be prepared before July first, some of the extra early va-

rieties will, in an average season, mature a crop if planted as late as July 15. However, if the ground is too dry for the corn to sprout as soon as planted, this latter date is rather late, as an early frost may destroy the crop.

String beans is a good crop to plant after early peas and cabbage. After the pea crop was harvested we chopped off the vines with a hoe, hauled them to the pig pen and barnyard, where they will decay before the manure is hauled out in the fall, and plowed the ground. After the ground was harrowed, it was marked out and the beans drilled in the rows with a Planet Jr. drill. No extra fertilizer was used as the peas were manured heavily and the ground is naturally rich.

In preparing ground that has been in early cabbage for beans we first run the scratch harrow up and down and across the rows. This tears out the roots and knocks off the dirt. They are then hauled off in carts and the ground is ready for plowing, after which it is treated the same as for the spring crop.

String beans may be planted as late as August 10th. The crop of cabbage is usually entirely harvested before the first, so that we have plenty of time



GARDEN PLOT UNDER IRRIGATION, YIELDED ABOUT \$200 FROM LESS THAN 1.5 ACRE IN FIRST IRRIGATED CROPS.

Owned by E. T. Leap, Gloucester Co., N. J.

to prepare the ground before the tenth. By planting one lot of beans after early peas and another after the early cabbage, we have one lot ready to harvest before the other comes on. The past two or three years the crop that matured first brought the most money, but conditions may be reversed this year, so that it is wise to have the bean crop maturing at different periods. This is advantageous for two reasons: First, because one is sure to get part of the crop at least in market for the top-notch prices; and, second, because the harvesting of the crop is extended over a longer period and can be accomplished by the regular help without seriously interfering with other work.

We are planting Wardwell's Kidney Wax, which is a standard variety. The Early Refugee, a green podded variety, however, is quite as good; it is a heavy cropper and is a general favorite in the market over Wardwell's Kidney Wax.

We have planted spinach after early tomatoes; but believe, taking one year with another, that it pays us better to plant a cover crop, and thus save on our manure bill, than to plant the spinach. However, if one lives near the city, has a special market, and can get his manure at reasonable prices, it may pay well to grow spinach as it requires little attention. On good, rich ground free from grass seeds, it can be planted the same as rye and will grow without cultivation.

One of the best combinations—one that we have been using for years—is that of tomatoes following onions. Set onions are planted in the spring and

they are marketed about July 1st, and are all sold by the last of the month. This latter date would be entirely too late to plant tomatoes, so in order to get the tomatoes started in time for the bulk of the crop to mature before frost, we set the plants after the last cultivation of the onions, about the last week in June. The onions must be free from all grass and weeds when the tomatoes are set, as they can not be cultivated very thoroughly until the onions are harvested. At the last cultivation of the onions we use the three-toothed harrow with a large plow tooth on behind and this throws up a ridge along the onions. After the rows have been ridged, we set with the "puncher and tongs" good stocky tomato plants along the edge of every other ridge about two inches from the onions. As the onion rows are two and one-half feet apart, this leaves the tomato rows five feet apart and the plants are set about four feet apart in the rows. The plants do not interfere with the harvesting of the onions, as they are pulled and piled to dry on the row that has no tomato plants set in it.

Cabbage can be planted in the onions, and thrives on the type of soil that is

saved; for by growing that crop of tomatoes no grass and weeds were allowed to go to seed to bother us in this year's crops. It is in attention to apparently minor points that economy is achieved. Many times the money returns from these second crops are sufficient to pay fertilizer or labor bills, so that the gross profits from the main crop do not have to be drawn upon very heavily.—Harris T. Kille, Gloucester Co., N. J.

PROFIT FROM SMALL GARDEN

The accompanying illustration shows my small garden plot on which I have installed the Skinner system of irrigation. This plot contains only 30 square rods of ground, less than one-fifth of an acre. I planted it in onion sets last year. The sets were planted in double rows, six inches apart and 30 inches between rows. This spacing permitted horse cultivation in the 30-inch space and hand culture in the 6-inch spaces. The sets were three inches apart in the single rows. I harvested 152 baskets of onions, the baskets containing five-eighths of a bushel. These were sold in the Philadelphia market at 45 cents per basket, less the exchange, bringing me \$68.40.

The dry, hot weather early in the season cut the crop at least 35 percent, so I decided to put in the Skinner irrigation system to enable me to take care of the water supply. I got it in time for use on celery and lettuce. Both crops have been successful. I sold these at our home market at 3 cents a stalk for celery and 3 cents a head for lettuce, at practically no expense for marketing. There were 4,000 stalks of celery and 2,800 heads of lettuce, which, at prevailing prices, brought me \$204 from the two crops.

The cost of equipping the plot with the irrigation system included \$18.10 for 362 feet of 3-inch galvanized pipe, at 5 cents per foot; \$11.40 for Skinner attachments; \$5.94 for posts and \$7 for plumbing, making a total cost of \$42.44. I get my water from the city water works company at a cost of 25 cents per 100 gallons. This rate is too high. I have enlarged my plant to cover two acres and have a contract with the water company by which I will get a rate of 15 cents per 1,000 gallons. I must use 50,000 gallons of water annually or pay a flat rate of \$75 per year. It is estimated that 27,000 gallons will cover one acre one inch deep.—E. T. Leap, Gloucester Co., N. J.

FERTILIZER INCREASES ORCHARD YIELDS

That many orchards are not producing profitable yields simply because the soil is deficient in plant food material needed by the orchard crops is quite forcibly demonstrated by experiments being conducted at the Pennsylvania State College, altho they are contrary to some at other stations. A corn farmer would not expect to raise a crop of corn on the same field year after year for a period of 15 or 20 years without fertilizing or manuring, yet the same farmer expects his orchard to continue its work and produce fruits. The reason many orchards are not so productive as they used to be is not entirely because spraying or pruning has been neglected, but partly because the soil has been exhausted of some of its former fertility.

A 25 bushel wheat crop will remove 30 pounds of nitrogen, 10 pounds of phosphoric acid and 10 pounds of potash in a year, making a total of 50 pounds of plant food. At an average wood growth and production of 11 bushels of apples to the tree, this crop will call upon the soil for 27 pounds of nitrogen, 10 pounds of phosphoric

acid and 48 pounds of potash in a year, making a total of 85 pounds removed, and exceeding the wheat crop by 15 pounds a year. The straw of the wheat and the leaves of the tree are not taken into consideration, because these generally are returned to the soil. No soil can keep on producing and furnishing these plant food elements, either for the wheat or the apples indefinitely, and unless some attention is given to the maintenance of fertility, the production must be limited and materially decreased as the soil wears out.

The Pennsylvania Agricultural Experiment Station at State College found it highly profitable to fertilize old apple orchards. A result of the experiment to date is given in Bulletin No. 121, published this spring. The test was started about five years ago by applying 50 pounds of actual nitrogen in dried blood and nitrate of soda; 100 pounds of actual phosphoric acid carried in acid phosphate; and 150 pounds of potash carried in muriate of potash. Manure was applied on other plots, 12 tons to the acre and lime to other fields at the rate of 1,000 pounds to the acre. The result has been to increase the yield over and above the check plots from 50 to 460 bushels of fruit to the acre, showing the value of proper fertilization.

In one experiment a result of a four-year test showed that 12 tons of manure to the acre produced a gain of 463 bushels over the average yield of the check plot, the total being 637 bushels on the manured portion and 174 bushels on the check plot. At 50 cents a bushel, the 12 loads of manure returned, in an increased yield, a value of \$231. In the same experiment, the addition of nitrogen and phosphoric acid increased the yield over the check by 375 bushels, the average being 542 bushels to the acre; nitrogen and potash meant an average yield of 468 bushels, an increase of 294 bushels to the acre; potash and phosphoric acid resulted in a gain of 103 bushels, the average being 278 bushels; the complete fertilizer produced a gain of 340 bushels, the average being 513 bushels. Results of liming were negative.

In another orchard the average yield of the check was 73 bushels per acre. Nitrogen and phosphoric acid brought an increase of 377 bushels; nitrogen and potash a gain of 259 bushels; manure 240 bushels, and the complete fertilizer 254 bushels. The average result of all the experiments showed manure meant a gain of 122 percent; complete fertilizer a gain of 79 percent, and lime a gain of only 11 percent.

Altho the apple crop consumes more potash than nitrogen or phosphoric acid from the soil, the addition of potash generally does not have so beneficial an influence as the latter fertilizers. This is thought to be because there is nearly enough potash present in most soil. Manure is particularly valuable and lime not generally recommended. After making a thorough study of the results, the Pennsylvania State College recommends the use of 30 pounds of nitrogen, 50 pounds of phosphoric acid, and from 25 to 50 pounds of potash to the acre.

To get the nitrogen, 50 pounds of nitrate of soda and 75 pounds of dried blood would be required. The phosphoric acid could be furnished in 350 pounds of acid phosphate and the potash in from 50 to 100 pounds of the muriate salt. These should be mixed thoroughly before applying. It would take about 13 pounds of the mixture to each full-grown tree, with 40 trees to the acre. The time for applying is from the time the fruit sets until about the middle of July. When the fruit crop promises to be light not so much will be needed. Heavier applications are recommended when a full fruit crop is set, so as to help develop fruit buds for

the next year. This method will keep the production more uniform from year to year. The manure or fertilizer is simply scattered on top of the ground, not too close to the trunk of the tree. It should be applied over the area covered by the spread of the branches.

The fertilization of orchards is a subject demanding more attention than it is receiving. Maximum production is not being maintained when any crop is grown continuously on a field without replacing part of the fertility that is taken away in the crop. It applies to fruit the same as it does to any crop.—Lynford J. Haynes, Erie Co., Pa.

STRAWBERRY NOTES

A strawberry bed should be renewed just as soon after the last picking as possible. Two years ago I waited till after wheat harvest to renew mine. The intervening time was sufficient to allow the weeds to mature, and the plants set did not have time to attain a good growth before the cold weather set in. Instead of burning the patch over I now rake the cutting for hay, since strawberry plants make very good grasses.

The best course to pursue, in order to renew the piece to best advantage, depends on conditions. If very grassy and soddy, probably the back furrow system would prove the best. If pretty clean, a sharp cultivator with a stout horse attached would do better. At any rate, some of the ground, with the plants growing on it, should be torn up, and the remaining strips cleaned of weeds.

As to setting a new piece at this time of year, it may be done, where it was not attended to in spring. Better not wait till August or September, but set as soon after picking is over as possible. It will be far better than no strawberries next year. The plants torn out in renewing the old piece may be used for setting, if desired. They will catch under the harrow and may be raked off. Of course, they must be kept moist, and should be sorted out and thinned before setting, and only those with white roots used.

Considerable area may be added to the bearing piece by this plan. The plants set early in spring should be kept clear of weeds, which will have to be done by hand from now on, owing to the runners and new plants. I know of nothing that will so pull down the yield of a strawberry piece as to allow weeds to come in and take possession. On weedy ground this is a matter that requires vigilance.—Clarke M. Drake, Onario Co., N. Y.

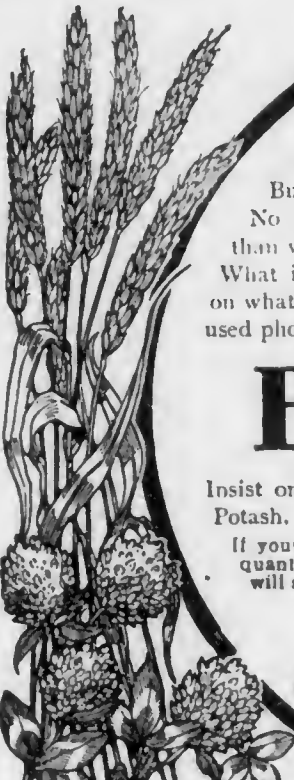
HORTICULTURAL SOCIETY MEETING

The joint summer meeting of the Maryland-Delaware Horticultural societies will be held at Berlin, Md., July 21, 1913, when these societies will be entertained by J. G. Harrison & Sons, the noted nursery firm at Berlin. Opportunity will be given visitors to see the scope of the work being carried on and to observe the possibilities for fruit growing on the Peninsula. Pruning demonstrations and demonstrations in other lines of practical work will be given. Recreation and education will be combined at this meeting.

NOTES

Moth Quarantine.—Secretary Hous-ton, of the U. S. Department of Agriculture, has issued an order strengthening the quarantine on gypsy and brown-tail moth. A copy of the order may be secured by writing the Secretary, Washington, D. C.

Forestry Profits.—On the best German forests the annual expense is \$13 an acre, but the gross returns are as much as \$24; thus they yield a net return of \$11 an acre each year.



Wheat and Clover

Many farmers stick to wheat raising mainly because clover follows it in the rotation. But why not get the best possible out of both crops? No crop returns better profit for the right fertilizer than wheat.

What is the right fertilizer? That depends on the soil and on what fertilizer you have used on it. The longer you have used phosphate the sooner it will pay you to balance it with

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Complete information on the characteristics, life, histories and means of control of the more common injurious insects, including those infesting field crops, vegetables, fruits, the principal pests of domestic animals, stored products and the household.

Each insect, with its characteristics and the peculiarity of its destructive work, shown by original photographs, so that anyone may recognize them.

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Live Stock

HOW TO BREED BETTER HORSES

The properly conditioned young horse, with its necessary education largely completed, is the most perfectly-finished product on the farm. The ordinary eastern farm with its abundant use of horsepower furnishes ideal conditions for growing, developing and training draft horses. The farmer who keeps a few choice mares to do his farm work and raise colts to sell has a great advantage. Good profits are coming to the farmers who have the right kind of horses to sell.

I would not advise the average farmer to go into the horse breeding business unless he is a natural horse-man and takes pride in handling the better class of horses. It requires skill and liberal feeding to grow and develop a high-grade draft horse. The actual difference in cost between growing the right kind and the mongrel is so small that it is folly for a man to start with a lot of inferior old mares and depend upon the good qualities of the stallion to correct their natural defects in the progeny. The question of buying purebred or grade mares all depends upon the man. If one has plenty of money and understands thoroly the keeping, caring for and mating of such mares, then he should buy them. If he does not, it is better to leave them alone. The most successful breeders are men who have made the advance from grade to purebred stock gradually. The desire to own purebred stock is praiseworthy, but until a man is fitted by experience and inclination to care for it as it should be cared for, he should not invest too liberally.

There is nothing about the breeding and rearing of purebred draft horses that anyone should not be able to learn. Still they require better treatment than most farmers give their horses. Purebred horses do not require pampering but they do require good care and enough good wholesome food. If one has been successful with grades, he will find the transition to purebreds is an easy one, and he will find no difference between the grade and purebred stock. He may safely buy a few purebred mares. If he knows nothing about draft horses, he will do well to grade up his horses for some years before beginning with expensive breeding mares. At least, he should gain the necessary experience in some way before he makes the change.

After selecting a few of the best mares he can afford to own, he should mate them with a stallion of one of the leading draft breeds. The stallion should weigh not to exceed 500 pounds more than the mare with which he is mated. In all lines of stock breeding we find that nature abhors a union of widely different types, and that it will usually produce better results to mate the mares with stallions somewhere near their weight and resembling them in form and general characteristics.

The mare should be fed at all times with a liberal ration of clean and nourishing feeds, and should have an abundance of clean and pure water. The feeding should be done with caution, and she should have no more to eat at a time than she will eat up clean. When a mare relishes her food, it is good evidence that she is thriving. Oats and bran, with an ear of corn, especially if she is working, make an ideal grain ration, and the amount may be regulated according to the amount of work she is compelled to do and her general appearance and appetite. All the hay fed should be clean and free from dust.

As foaling time approaches, the mare

needs the best of care and most careful feeding. Much of the risk usually common at foaling time may be eliminated by careful feeding; her supply of milk may be regulated so that it will not form a hard or caked udder. I believe that as a rule it will be safer to withhold all rich milk-producing foods for a few days before she is due to foal. After she has foaled, especially if she gives promise of being a heavy milker, she should be fed sparingly until her milk flow becomes regulated to meet the demands of the foal. If the mare is a scanty milker, it will be best to feed her a liberal ration of milk-producing foods. When the mare does not foal after protracted efforts, veterinary aid should be had at once, for delay often results in the loss of either the foal or mare, and many times both. As soon as the foal is born and pulsation ceases, the navel should be tied with a string about three inches below the body, and then severed about two inches below where it is tied. The string and the whole navel region should be disinfected by sprinkling with a powder made from sulfur and tannic acid mixed, equal parts. This should be done four or five times until well healed. As soon as the foal has nursed, one should keep close watch of its bowels, and if they are not in proper condition, do not give a dose of physic



A 12-PIG LITTER, 3 WEEKS OLD.
Grown by Geo. W. Dillman, Crawford Co., Pa.

but use a syringe, and the cause will be removed without danger of deranging and interfering with the whole digestive system.

When a mare has been kept at hard work up to a short time before she foals and has been fed a grain ration, and then, after foaling, is put out to pasture with her foal, it is safe to say that the foal's death warrant has been signed. Mares that have been kept at work up to the time they are due to foal are pretty certain to have strong, lanky foals, and after the colt gets a good start on its dam's milk, that has been formed from rich grain feed, all goes well until she is turned out on grass. Then the composition of the milk is changed, and the grass milk disagrees with the colt. The bowels become loose, and he sucks more and more, until at last he has the scours and dies. The result is not caused by eating poisonous grass or weeds, but by the sudden change in the composition of the mare's milk, due to the change of food.

When it is desired to turn the mare and colt out to grass, get them accustomed gradually. When the mare is allowed to run in the pasture at night, and fed a full grain ration, she may safely be turned out to grass with her foal, but her grain food should be kept up to secure the best results. Mares and their colts should have a little grain food every day, altho not every one will follow this practice.

The loss of flesh and condition at weaning time may be reduced if the colt is taught to eat before it is weaned.

It is not the best practice to feed the colt large quantities of grain while with the mare, but rather to get him used to eating small amounts. Teach him to stand tied, so that he will not fret when taken away from the mare. Colts that are accustomed to being led and tied are much easier to manage during weaning time than those that have never been handled.

About six months of age is the proper time to wean a strong foal. Many good horsemen prefer to wean them at once, while others wean them more gradually, allowing them to suck once a day for a few days before they are taken away entirely. After the colt has been taken away, it is essential that the mare have good care, and her udder well bathed, at least once a day, with cold water and spirits of camphor. This dries up the milk and prevents the udder from becoming caked and feverish.

When the foal is taken away from the mare, he should have a box stall that is well lighted and ventilated. The box stall will afford him more exercise than a single stall, but do not think that it will furnish him enough; turn him out every day when the weather is favorable and allow him to run about the yards. Bran and oats are ideal grain feeds and clover and timothy hay make suitable roughage.

PIGS WITH SORE EARS

An inquirer wishes to know what to do for his pigs that have sore ears, the skin having come off, and in some cases the points of the ears. The inquiry does not state that the pigs are white, but undoubtedly they are, as this trouble does not attack pigs of other colors. We have, however, had red pigs farrowed by white sows that were quite susceptible to sore ears.

I do not think that anybody knows of any practical relief worth trying. Catching these pigs and sneering their ears with some "dope" never did us any good. We learned to let the pig take care of their own sore ears, and in a few cases a third of the ear came off. The trouble is always possible with white pigs. The white skin is tender, and when the pigs run out in the clover, wet with dew or rain, it is supposed that the clover causes the trouble, consequently it is called "alsike poisoning." As a preventive, white pigs should be kept out of alsike clover when wet. Pigs with this kind of sore ears rub violently, run squealing about both day and night, and even roll over and over in their efforts to find relief. Consequently it would be supposed that their thirst is affected thereby. However, this has not always been noticeably evident.—Geo. P. Williams, Delaware Co., Ohio.

MISCELLANEOUS

IT PAYS TO BUY THOROUGH-BRED SHEEP OFFSPRINGS. "The sheep man of the east" I sell and ship everywhere and pay express charges. I will start one man in each town. Write for club, offer and descriptive price list. Sheepskins, lamb-skins, and other specialties. **PARSONS** OXFORDS, R. 3, Grand Lodge, Michigan

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Choice English Berkshire Pigs for sale. Both sex, from prize winning stock. Also one service boar. **J. B. WILLIAMS**, R. 1, Hornell, N. Y.

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Cheshires—The best you need. Our pigs are new but fine this year. Write for circular. **Fred W. Card**, Sylvania, Pa.

Grange

EDITOR'S NOTES AND COMMENTS

Mt. Vernon, Dec. 4, 1788.

Sir:—

The more I am acquainted with agricultural affairs, the better I am pleased with them, inasmuch that I can nowhere find so great satisfaction as in those innocent and useful pursuits. In indicting these feelings I am led to reflect how much more delightful to an unobtrusive mind is the task of making improvements on the earth, than all the vainglory which can be acquired from ravaging it by an uninterrupted career of conquests.

The design of this observation is to show how much, as a member of human society, I feel myself obliged by your labors to render respectable and advantageous an employment which is more congenial to the natural disposition of mankind than any other.

GEORGE WASHINGTON.
To Arthur Young, Esq.

One can scarcely realize the change in the occupations of men that has developed in the 125 years since Washington wrote the above letter. Then, the two occupations in which mankind was chiefly engaged were agriculture and war. In that century and a quarter both these occupations have declined in popularity, and commercial enterprises have been wonderfully developed, claiming the major share of the attention and energy of mankind. The objective point being, now as then, the "vainglory of conquest"—to use Washington's words. While we would call success in business a peaceable conquest, might we not believe the Father of our Country would still say, if he were here, that "agriculture is the most useful, the most healthful and the most honorable occupation of man," despite the fact that a thousand and one occupations have been evolved since the foregoing letter was written?

Pioneers.—We still have need of the pioneer type. We look back, in imagination, to the struggling times of our forefathers and pity or admire (according to the stuff in us), as we think of their hardships in subduing the earth. We follow them as they take up the western trail, and wonder at their hardihood in conquering such mighty difficulties. The tenacity of purpose and self-sacrifice of those primitive log-cabin and sod-shanty dwellers, shown in the history of our country makes it inspiring reading.

We have need of that same spirit today. There is pioneer work needed all over the country. True, it is of a different kind, but it requires the same determination and fortitude. The tendency of the majority of mankind is to settle down and stay settled. All progress and development in religion, business, education, methods, is led by those who have the courage to lead on in spite of opposition, ridicule and even persecution. We still need the sturdiness of our forefathers.

The Keystone Exchange.—It is very encouraging to note the interest taken in the development of the Keystone Exchange, a state corporation headed by the Pennsylvania State Grange for the purpose of doing the buying and selling of the farmers of the state. No one denies the need of such an organization, and all that is needed now is a willingness on the part of farmers to make use of this opportunity. Holding back patronage until we see its

success retards the movement. Enough has already been done to prove its worth, and its value is increased as the volume of business is increased. In order to have real co-operation we must step boldly to the front and be willing to do our share in this pioneer work.

It is gratifying to learn from the meagre information we can gather that the new Secretary of Agriculture, Houston, has the right conception of the rural needs. Sphinx-like as he seems so far to be, his few utterances bear evidence that his efforts will be directed towards the improvement of the many phases of agricultural life. Great results may be expected from this wonderful department if its chief is in sympathy with the farmer as well as with the farm and can enter into his work with clear vision.—R. P. Kester.

McSPARRAN'S GRANGE NOTES

Heroes of Today



With each recurring Fourth of July our thoughts are turned by speech and press to the heroes of history that have, in the bloody fields of battle, helped to solve the problems of the world. For some strange reason the military hero has always received a large meed of acclaim for his accomplishments, out of all proportion, really, to the amount of actual good that his achievements have brought to man. Physical prowess of any kind is more apt to be noticed than are the efforts of the mind or the soul. At the same time, we are all willing to admit that in relative importance the physical man would stand third.

When our beloved Washington is shown in action it is usually upon his white horse, either overlooking some scene of martial conflict or on parade, receiving the sword of a defeated adversary or the plaudits of a worshipful constituency. True, he was a splendid strategist and leader of military operations, but his great power was also shown in the fact that he was able to keep down the petty jealousies of the several settlements sufficiently to weld them together in a unified struggle for a great principle. And ever greater yet is his superb leadership seen in his bowing before Almighty God in earnest communion, thus becoming the channel thru whom the Ruler of Nations worked out the beginning of a national destiny.

Anyone who overlooks or leaves out of calculation the part that Providence plays in the affairs of nations is a very superficial student of the causes of events, and for that reason many times the true sources of national influence are overlooked and the laurel is placed upon the brow of the conspicuous leader, when the real deciding force in the result was the huddled knee of a suppliant people.

In connection with the celebration of this anniversary day this year a beautiful scene was enacted on the field of the great battle of Gettysburg. As the soldiers of the North and South marched and camped side by side in this celebration, let us hope that the last vestige of sectional prejudice be blotted out and that the words North and South will stand hereafter simply as distinctive of place and not for a difference in standards of thought and feeling. Back of that great conflict were two principles, and a lot of politics. The two principles were the questions of secession and slavery, and the soldier is worthy of a splendid meed of praise for his part in the bloody solution of those great principles. The soldier bled to make the principle ac-

tive in our national life, but what of the great army of thinkers, writers and speakers who outlined the principle and brought it before the public mind? Who aroused public sentiment and quickened the public conscience? Who modified the variations of thought and crystallized the single proposition?

The world lays its tribute at the feet of the deserving soldier, and so it should. But it also should not forget that more powerful than the belch of the cannon is the outburst of the tongue of a Beecher, a Brooks, or a Garrison. More searching than the sharpshooter's rifle is the pen of a Stowe. These should be remembered, and a host of others who, from pulpit and platform, from editor's desk and suppliant's closet wrought more silently but no less potently for the general good.

In the days of peace the world, with loud acclaim, greets the victorious athlete returning from the games. Even the pugilist, who with skillful the brutal stroke tells his opponent, calls forth a generous share of public praise, and multitudes will watch and wait to catch a glimpse of his often unsightly face. But the real heroes of today are those who have made it possible to speak thru ether round the world; to state the numbers and the lightning calculator stamps down the sum total; to sit at ease and plunge beneath a river or a city; to write the words that will thrill the passing generations with a never-ceasing joy; to cheat disease and deny to death its victims; to ride the air and cleave the clouds.

These heroes shed not their blood but their brains. They march not shoulder to shoulder but with the lone tread and in the silent hour. No bugle call arouses them to energy, but the whispering voice of genius or the still small voice of God.

In our celebrations of victories we should not forget that the triumphs of peace are just as grand, or even nobler, than the victories of war, and they do not leave behind the stream of blood, the broken family circle and the vacant chair.—John A. McSparran.

THE GRANGE AND THE TARIFF

The legislative committee of the National Grange, which is comprised of National Master Oliver Wilson, of Illinois; National Lecturer N. P. Hull, of Michigan; and Prof. T. C. Atkeson, of Morgantown, W. Va., has issued an open letter to Congress on the grange position on the tariff. Fundamentally the grange takes the position that so long as protection is the policy of the government, agriculture is entitled to a full share of such protection. For several years the National Grange in annual session has stated its policy, and again last November, at Spokane, Wash., it adopted the following resolution: "We believe that the tariff should be so regulated that it shall not cover more than the difference between the cost of production at home and abroad, and if we are to have free trade for one, we should have free trade for all. And further, that when the manufacture or sale of any article becomes monopolized that the tariff should be removed from such article."

The grange does not undertake to say whether protection or free trade is the best policy for the government to pursue, because it is a non-partisan organization, but it does believe that the farmer is entitled to as much protection at the hands of Congress as is the manufacturer, and it demands "tariff for all or tariff for none." The legislative committee objects to placing agricultural products on the free list as "raw material." All products as they leave the farm are the "finished prod-

ucts" of the farmer as much as are the output of the factories the finished products of the manufacturers, and any and every protection or advantage that is accorded to one should be accorded to the other. "If we are to have free wool, then free woolsens; if free raw sugar, then free refined sugar. The proposition to put wool on the free list while a tariff is continued on the goods made from the wool is manifestly unfair as between farmer and manufacturer."

The legislative committee, in closing, informs the Congress that the grange knows the "difference between 'downward' and 'upward,' and it insists that the farmer be not discriminated against in the letting down of the bars."—J. W. D.

PROGRAM OF NATIONAL GRANGE MEETING

The committee in charge of local arrangements and program of the next annual National Grange meeting, to be held at Manchester, N. H., in November, has made a preliminary announcement of a tentative program as follows:

Tuesday, November 11.—Evening session only, at which formal welcome to grange delegates and visitors will be extended by the governor of the state, mayor of the city, congressmen and a Past Master of the state grange.

Wednesday, November 12.—Business session in the morning and afternoon and a public meeting in the evening, to be addressed by Secretary of Agriculture Houston, of Washington, the National Master and others.

Thursday, November 13.—Business session in the morning; conferring of the fifth and sixth degrees for out-of-state Patrons in the afternoon and the seventh degree in the evening.

Friday, November 14.—Business session in the morning, conferring of the fifth and sixth degrees in the afternoon for New Hampshire Patrons and the seventh degree for them in the evening. Saturday, November 15.—Business session in the morning and in the afternoon a trip to Concord as guests of the state and city of Concord. Round table session in the evening.

Sunday, November 16.—Special services at churches in the morning and the annual memorial exercises in the afternoon.

Monday, November 17.—Business sessions in the morning and evening, and in the afternoon a visit to manufacturing industries of the city.

Tuesday, November 18.—Business sessions in the morning and afternoon. In the evening the grange will be guests of the Chamber of Commerce at dinner and theatre.

Wednesday, November 19.—Business sessions morning and afternoon and annual meeting of the Priests of Demeter in the evening.

Thursday, November 20.—Business sessions morning and evening. Visit to the Whipple Farm, New Boston, in the afternoon.

Friday, November 21.—Business and concluding work of the grange.

Saturday, November 22.—All-day trip thru New Hampshire as guests of the state grange. At Laconia as guests of the Board of Trade. At Durham as guests of the College. At Portsmouth and Navy Yard as guests of granges and Board of Trade.—J. W. D.

Grange enthusiasm will be at white heat all the summer. National Master Wilson will be in the East during the week beginning July 28th, and will address field meetings every day, and other speakers will carry on the campaign for new members to insure the largest seventh-degree class ever initiated.—D.



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Philadelphia Pa., July 19, 1913.

The lobby investigation at Washington is developing a series of mild sensations. The evidence already developed has appeared to justify the President's charge that "industrious and insidious" lobbying was going on in connection with tariff legislation. Whether or not the investigation will be productive of permanent good, the public is being given a view of the "inner works" that is enlightening if not reassuring. Much of the testimony that has been given prominence in the daily press has been of doubtful value, owing to the confessed double dealing of the witnesses. This testimony shows, however, that lobbying may be made a very flexible system, capable of working both ways, and enabling the professional lobbyist to "get 'em coming or going." If the present investigation is to be of value it must do more than establish the fact that lobbying exists. The practice has existed in one form or another practically since the government was established, and with our form of government a certain form of lobbying must always exist. There is a very great difference, however, between the legitimate and proper representation of interests before our lawmakers and what the President terms as "insidious" lobbying. The one result of the present investigation must be to desired is a code of regulations which will help to classify lobbying, and then a definite law which will serve to control the insidious variety. The wolves who prey first upon the people and then upon the interests that support them are a menace and a disgrace to the government. There must be some way of putting them under control, if not to stop their operations entirely. The ultimate aim of the present investigation should be to discover and enforce that way.

Parcel Post Changes

The Postoffice Department has recently announced two important changes in rulings on parcel post service. The provision requiring special stamps for parcel delivery was unsatisfactory from the first, and this is now remedied by authorizing the use of the regular letter stamps. Provision is also to be made for collec-

tion of money on packages sent C. O. D.; the limit of such collection being placed at \$100. These changes, coming gradually, may be expected until the service is placed upon a satisfactory basis, comparable with similar service in foreign countries. Objection to parcel post is disappearing as those who feared that it would injure their business have a chance to observe its operations. As improvement in practically all features lies almost entirely in the hands of the Postmaster-General, changes in rates and regulations as to zones are expected to follow as the service is expanded. As with the rural routes and the postal banks, progress in parcel post extension promises to be rapid as the people increase their demands and avail themselves of the service.

Teachers

One of the most encouraging features in the demand for instruction in agriculture in rural schools is the interest manifested by the teachers themselves. Reports from summer normal schools and short courses in agricultural colleges indicate that the teachers are taking a very lively interest in preparing themselves for their work. The attendance at such schools is larger than ever before, and the agricultural subjects are becoming very popular with the teachers. This is making preparation for the new work where the start should be made. The usefulness of the work and the ultimate success of the movement depend upon the efficiency of the teachers. A neighboring state made the mistake some two years ago of enacting a law making it compulsory to teach agriculture in the grade schools. The teachers were not prepared to take up the work, and no time was given them to prepare, and the result was that the quality of instruction suffered. The teachers were not to be blamed, and yet their inability to conduct the work on practical, interesting and instructive lines has retarded the general movement in that state. The parents and taxpayers are pretty fair judges of the quality of instruction given their children, as a rule, and they will not tolerate innovations that do not bring results, regardless of the apparent need or theoretical value of such innovation. We believe that farmers, as a rule, favor the teaching of agriculture in the public schools; at least they favor the adaptation of the various studies in the common school curriculum to farm and rural conditions as much as possible. But it requires skill and special preparation on the part of the teachers to bring out the full value of such work. Without this preparation the movement can never succeed, even with liberal appropriations and continued agitation. With proper training and real efficiency in the school head, the change will come gradually and will be made to yield its benefits with little expense or persuasion.

We are occasionally asked by some readers with a strong liking for established customs why we use the simplified forms in the spelling of such words as thru, tho, etc. Among many of the older readers there is a pardonable dislike for any interference with the rules laid down by the old-time spelling books. Spelling books once held a much more prominent place in the common school curriculum than they do today, and their rules were held to be exact and final. But the spelling of words, like their pronunciation and phases of meaning, is determined by common use as much as by fixed rules and principles; or rather, the rules are based upon common usage. In the great demand for efficiency today, it is necessary to give greater at-

tention to the conservation of time, energy and brain power in the work of the mind as well as of the hands. The adoption of the so-called phonetic form of spelling is an advance step in meeting the demand for such conservation. The forms are not necessarily new, as most of them have been authorized by the standard dictionaries for years. The public writers, newspapers, magazines and educators that are taking them up are simply putting into general use the forms that were suggested as improvements years ago. The present occasional objection arises from the fact that just now there are rather an unusual number of words which are undergoing this change, and the reform has the appearance of overturning established precedents. Coming generations will look upon the new forms as the established precedents, and will wonder at our patience in the spelling of "through," "though," "programme," "catalogue," etc., as we now wonder at the patience of those who once spelled "publick," "gowne," "cowld" for cold, "maister" for master, etc. The adoption of these simplified forms of spelling means a saving of time and labor in the use of the words in writing, a saving in brain power to the young in learning the use of words and to the foreigner in the mastery of our language. The older and longer way of spelling these words, like the shaded letters in writing and the extravagant flourishes in signatures, is giving way before the demand for an elimination of the waste of time.

Crop conditions appear to be very irregular thruout all of the East. The late frosts, which were particu-

larly severe in some sections, did much damage to fruits and vegetables, and the June drouth, which was equally severe in other sections, injured hay and the grains. There have been many conflicting reports, but indications point to restricted production in many staple lines. The government crop report, usually optimistic, places the condition of all staple crops, except winter wheat, at lower figures for July 1 than on the same date a year ago, and all except winter wheat, corn, barley and apples, lower than the 10-year average on July 1.

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STATE CAPITAL NEWS

Working Out the Bills.—For the next 10 days attention will be devoted to the bills which are now being passed on by Governor Tener. At this writing between 500 and 600 remain to be disposed of, the bulk of them being appropriation bills for various objects, educational, charitable, public works, administrative and commemorative, and all must be acted upon by July 27. The hardest part of this work and the portion needlessly piled on the governor's session after session, is reduction of the appropriations to fit the state revenue. This condition will endure as long as governors allow it to exist, and is largely because of the lack of system in making state grants to charities, educational purposes and public works. Until the legislative and executive branches get together and determine thru the proper officers how much money shall be voted, and what shares shall be given to government, charity, education and other objects there will be more or less confusion at the end of every session. Perhaps it would be a good thing this year when the whole system of nominating officers is to be changed for the men at the head of the parties to work out some proposition which could be embodied in party platform next year for the control of state expenditures. It seems absurd with a carefully prepared statement estimating the revenues of the state at hand at the very opening of the session that the appropriations passed should exceed the income of the state by \$27,000,000. Some idea of the task confronting the executive and his officers can be gained from the statement that the appropriations reached \$89,000,000 and that aside from the appropriation bills,

measures embracing over two score different subjects, and some of them much involved, remain to be acted upon. Furthermore, some of the appropriation bills commit the state to a program of expenditures which would cover years, a fact which alone calls for the greatest care in dealing with them. The latestness of the date of the passage of the general appropriation bill, coupled with the fact that it is greater by \$11,000,000 than any such bill ever passed, has necessitated considerable inquiry regarding its provisions, as it has to be acted upon as a whole, and this resulted in the holding up of salaries and of payments for many items.

Direct Primaries.—The approval on July 12 of the direct primary act abolishes all kinds of conventions in Pennsylvania. Now every nomination, except for vacancies, is to be made at the primaries. This will bring the nominations for governor and United States Senator before the primaries next year and make a change in elections in Pennsylvania which the average man can scarcely realize. It is possible that the governor may approve the bill for the election of judges on a non-partisan ballot, which will add to the notable reforms made by the last legislature. The primary next spring will be on May 19, and the candidates for governor, United States Senator, Congressmen, state senate and house of representatives will be named at that time. The various candidates for county city, borough, school district township and precinct offices to be filled at the election on November 4 this year will be nominated on September 16, a little more than two months hence. At the same time two candidates for judge of the state superior court will be named.

Enabling Legislation in 1915.—Governor Tener has definitely declared that there will be no extra session of the legislature to pass laws to enable the state to issue bonds, even if proposed amendment to the constitution to permit the state to borrow \$50,000,000 for road building is approved at the polls in November. This will have the effect of leaving to the legislature of 1915 the passage of such legislation as is required to issue the bonds, provided the amendment is ratified, and the new state administration will spend the money.

Traction Engine Licenses.—The new motor vehicle license law, which provides for increased license fees for automobiles and motor trucks, also contains this provision: "The fee for registration of traction engines equipped with metal wheels shall be \$10 up and including 20,000 pounds gross weight, and \$20 over 20,000 pounds gross weight." The State Highway Commissioner is to have charge of the issuance of licenses.—Hamilton, Harrisburg, July 14.

Changes in Game Laws.—Very radical changes in the New Jersey game laws are made by the new regulation of the United States Department of Agriculture which will go into effect October 1. Changes are made in the time of open season for both land and shore birds. Shooting of insectivorous birds, including robins and larks, is forbidden at all times under new regulations. Hunting on the large rivers is prohibited except during November and December.

Standard Baskets.—As the new basket law will not go into effect until November 1, the farmers, fruit-growers and others will have time to dispose of their baskets of irregular sizes. The law provides that "baskets used for fruit or fruits, berries or vegetables in this state shall be of the capacities in standard dry measurements of 20, 16, 8, 4 and 2 quarts, and for sale of berries or small fruits shall be of the capacities in standard dry measurements of one quart and one pint."

State Summer Schools.—There are 800 school teachers enrolled in the summer schools, of whom 300 are at State College at New Brunswick. The work is entirely for school teachers and great stress is laid upon the agricultural and nature subjects. The direct result of this work will be to raise the standard of teaching in the state and the pay of the teachers will be improved.

Asparagus Season.—The asparagus season is about over. Altogether it has been a fairly profitable one for the growers. The crop was late in getting started on account of the cold weather in the early spring. Prices did not rise as high as last year, but on the other hand they were more consistent. Less asparagus is raised in the state today than ever before, owing to heavy production in other parts of the country. Hundreds of acres that once produced fine "grass" are now planted to potatoes, which have become our great money crop.

NEW JERSEY FARM NEWS

Half a Cranberry Crop.—From present indications there will scarcely be half a cranberry crop this fall. From the beginning at Farmingdale, and all the way south to and thru Atlantic County, and west thru Burlington, late frosts hit the berries badly. Before that even, the berries did not blossom out. There was a new growth of vine, but no blossoms.

Good Prospects For Tomatoes.—While climatic conditions have not been favorable for a rapid growth of tomato plants and the plants are yet quite small, they are now of good color and growing rapidly. If severe frost does not damage the growing crop early in the fall, the yield will be greatly in excess of last year. Factories have contracted for the fruit for as much as \$10 a ton and it looks like a prosperous season.—D. T. H.

MARYLAND NOTES

Heavy Storms.—On June 20 a severe electrical and wind storm occurred in Green Anne's County, resulting in much damage to growing crops, uprooted trees by the score. Houses and barns were blown down and several persons struck and killed by lightning. It is declared to be the worst storm ever occurred in the county. Cattle and horses have been unusually severe on catalogue vines. Wheat better than last year, but only two-thirds of a normal crop.

Cost of Milk.—The farm extension

agent for Baltimore County has just completed an interesting investigation of the cost of producing milk on 10 farms which market whole milk. The calculations covered a period of 12 months. Records of feed consumed and milk produced for a year had been kept by a government official. Tea dairies were represented with a total of 250 cows. All expenses were considered. Interest on capital invested was figured at 5 percent; depreciation and repairs, 5 percent; losses of live stock, 12 percent. Figuring the cost of labor per cow at \$37.50 brought the gross cost of keeping each cow to \$134.98 for one year. Net cost of milk per gallon, delivered at station, about 18 cents.

Trolley Freight.—There is much talk of utilizing the suburban trolley lines terminating in Baltimore for freight, to bring farmers' products to market, especially dairy, poultry products and fruits.

Women's Garden Clubs.—In Green Spring Valley, near Baltimore, a section noted for its magnificent estates, the women have a Gardeners' Club and an Amateur Gardeners' Club. Miss Fanny McLane, president of the Gardeners' Club, recently entertained the members of both clubs. Other prominent women have given luncheons and garden parties.

Shipment of Dogs.—A carload of dogs was recently shipped from Chestertown, consigned to New Jersey. There were 42 hounds and 20 puppies. Another carload would not be missed, and the community be bettered.

Women's Institutes.—Dr. Richard S. Hill, Director of Farmers' Institutes, will give a number of Women's Institutes this week. Domestic science and home economics will be discussed by Misses Burnette and Winslow, and poultry by Mr. George O. Brown. Practical demonstrations in modern cooking, canning, etc., will be given. A similar series was given last season and proved to be very popular, all the meetings being well attended.—G. O. B.

COUNTY NOTES

Perry Co., Pa. (C.), July 11.—Weather has been very warm; slightly cooler at present, following refreshing showers. Stock looks well and scarce. Wheat and rye were good crops; getting ready to thresh. Wheat, 95c; rye, 65c; corn, 65c; oats, 35c; potatoes, 50c; buttermilk, 25c; eggs, 16c. Work is well in hand; some timothy hay yet to make. Help very scarce.—S. B. Swartz.

Harford Co., Md. (N. E.), July 7.—Cool, after a severe storm, and hot wave. Hogs, cattle and milk cows very high. Hogs bringing 9c per lb. live. Fresh cows, \$70 to \$80 apiece. Wheat a very light crop, and not average hay; timothy a fair crop, owing to the late rains. Harvesting nearly all done, except timothy hay, which is now being cut. Labor very scarce.—D. G. Harry.

Armstrong Co., Pa. (S. W.), July 11.—Warm, plenty of rain, with cold nights. Old wheat, \$1 per bu. Horses scarce and dear. Oats, 55c bu.; cabbage, 4c lb.; retail; butter, 25c lb.; retail; chickens, live, 15c@18c; retail; beef, 20c; pork, 15c; mutton, 15c; nearly all wheat cut in this section; meadows have improved. Fruit scarce.—Arthur R. Allshouse.

Bedford Co., Pa. (S. C.), June 9.—Warm with frequent showers. Cattle very scarce. Most of grain in shock. Hay crop short, due to cold spring. Summer fruit is very high, as the crop is almost a total failure.—N. F. Richards.

Wayne Co., Pa. (N. E.), July 9.—Weather showery. Stock all in pasture and doing fine. Crops are doing well as rain came just in time to save them. Prices on everything good, especially meat, which is very high. Hay and cultivating are occupying the farmers' present. Corn looking well.—E. W. Cary.

Putnam Co., N. Y. (S. E.), July 11.—Very dry; long drouth; rain very scarce. Eggs, 35c doz.; butter, 35c lb. Live stock in good condition. Oats looking well, with prospects for a good crop. Hay crop very light on account of dry weather; corn and potato crops suffering for lack of rain. Farmers busy plowing for buckwheat.—Wm. Seims.

Clearfield Co., Pa. (C.), July 10.—Warm and showery. Corn and potatoes looking fine; oats fair; grass about one-half crop, freezing weather in June hurt it badly. Rye good; wheat fair. Butter and eggs, 25c. Veal calves

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Pennsylvania Farmer

scarc. Harvest just beginning. Very busy with corn and buckwheat.—J. M. Rowles.

York Co., Pa. (S. E.), July 9.—Very warm, with normal rainfall. Beef cattle selling from 7c to 8c per lb.; calves, 8 1/2@9c lb.; fresh cows, \$60 to \$80; wheat (new), 86c bu.; corn, 68c bu.; potatoes (new), 10c to 20c 1/2 pk.; apples, 10c doz. Hay is all made. Farmers are busy harvesting. Threshing season is beginning to open.—Clarence D. Emig.

Errie Co., Pa. (N. W.), July 9.—Cool weather, with plenty of rainfall. Dairy cows of good type are selling at \$50 to \$60. Young cattle and hogs are scarce. Eggs, 20c doz.; potatoes, retail, \$1 per cwt. All crops on an average are good. Corn and potato cultivating is nearly over and many are beginning on hay.—L. Howard Morton.

Crawford Co., Pa. (N. W.), July 7.—Has been very hot, but a cool wave now prevails. Cows milking fair and looking well. Hogs, 8c, live wt.; eggs, 20c; butter, 30c; young chickens, 20c lb.; hens, 14c lb. Corn and potatoes looking fair. Warm and wet for the last few days. Everything grew very fast. Haying will be late.—J. F. Seavy.

Delaware Co., Pa. (S. E.), July 12.—Hot and dry. Wheat scarce and high; veal, 10c. Chickens very short crop; badly rusted by cold spring. Corn good but hay short. Harvest well on. No peaches, and other fruit rather scarce.—Chester W. Ambler.

Warren Co., N. J. (S. W.), July 9.—Warm but considerable damage on some farms. Haying is under way; have had good curing weather. The white potato crop in South Jersey is estimated at a little over 75 percent of normal. Blighted potatoes will be dug at once. Shipping will begin about the 15th, and be in full swing a week later. Condition of crop irregular, with fewer sets but large tubers.—C. J. S.

STATE FAIRS AND EXPOSITIONS

State	Place	County	Date
Kentucky	Louisville	Jefferson	Aug. 11-16
New York	Cambridge	Richmond	Aug. 18-22
Ohio	Forest City Live Stock	Franklin	Sept. 1-6
Connecticut	Stamford	Stamford	Aug. 25-30
Michigan	Grand Rapids	Grand Rapids	Sept. 1-6
Illinois	Springfield	Springfield	Sept. 1-6
Maine	Lewiston	Lewiston	Sept. 1-6
Nebraska	Lincoln	Lincoln	Sept. 1-5
Indiana	Indianapolis	Indianapolis	Sept. 1-5
Maryland	Lanham	Lanham	Sept. 1-5
Maryland	Timonium	Timonium	Sept. 1-5
West Virginia	Huron	Huron	Sept. 1-5
West Virginia	Wheeling	Wheeling	Sept. 1-5
New York	Syracuse	Syracuse	Sept. 1-5
Wisconsin	Wausau	Wausau	Sept. 1-5
Indiana	Indianapolis	Indianapolis	Sept. 1-5
Kansas	Topeka	Topeka	Sept. 1-5
Kansas	Wilmington	Wilmington	Sept. 1-5
Kansas	Hutchinson	Hutchinson	Sept. 1-5
California	Sacramento	Sacramento	Sept. 1-5
Washington	Puget Sound	Puget Sound	Sept. 1-5
Ohio	Willoughby	Willoughby	Sept. 1-5
Iowa	Sioux City	Sioux City	Sept. 1-5
Michigan	Detroit	Detroit	Sept. 1-5
Missouri	St. Joseph	St. Joseph	Sept. 1-5
Missouri	St. Louis	St. Louis	Sept. 1-5
Montana	Helena	Helena	Sept. 1-5
Connecticut	Berlin	Berlin	Sept. 1-5
Connecticut	Meriden	Meriden	Sept. 1-5
Oklahoma	Oklahoma City	Oklahoma City	Sept. 1-5

PENNSYLVANIA FAIRS

Place	County	Date
Richmond	Henrico	Oct. 6-11
Williams Grove	Cumberland	Aug. 25-30
Easton	Lehigh	Aug. 26-30
Butler	Butler	Aug. 26-30
Kutztown	Berks	Aug. 26-30
Wyoming	Bradford	Aug. 26-30
Quakertown	Bucks	Aug. 26-30
Stroudsburg	Monroe	Aug. 26-30
Carrollton	Cambria	Aug. 26-30
Middletown	Dauphin	Aug. 26-30
Troy	Bradford	Aug. 26-30
Montrose	Susquehanna	Aug. 26-30
Applle	Armstrong	Aug. 26-30
Titusville	Warren	Aug. 26-30
Harford	Susquehanna	Aug. 26-30
Westfield	Tioga	Aug. 26-30
Emporium	Cameron	Aug. 26-30
Towanda	Bradford	Aug. 26-30
DuBois	Clearfield	Aug. 26-30
Reading	Berks	Aug. 26-30
Indian	Indiana	Aug. 26-30
Port Royal	Junata	Aug. 26-30
Lawton	Susquehanna	Aug. 26-30
Center Hall	Center	Aug. 26-30
Stonesboro	Merger	Aug. 26-30
Mansfield	Tioga	Aug. 26-30
Exton	Dauphin	Aug. 26-30
Wattsburg	Erie	Aug. 26-30
Gratz	Dauphin	Aug. 26-30
West Chester	Chester	Aug. 26-30
Holidayburg	Blair	Aug. 26-30
Parkton	York	Aug. 26-30
Punxsutawney	Jefferson	Aug. 26-30
Lewistown	Union	Aug. 26-30
Clarksburg	Clarion	Aug. 26-30
Bedford	Bedford	Aug. 26-30
Tem	Adams	Aug. 26-30
Carlisle	Cumberland	Aug. 26-30
Oxford	Chester	Aug. 26-30
Milton	Northumberland	Aug. 26-30
Forkville	Sullivan	Aug. 26-30
Lehigh	Lehigh	Aug. 26-30
Lancaster	Lancaster	Aug. 26-30
Burgess	Washington	Aug. 26-30
Bloomburg	Columbia	Aug. 26-30
Hughesville	Lycoming	Aug. 26-3

Pistols and Publicity.

By EDGAR WHITE.

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"My boy, you must close your eyes to their ways. When Big Ike rides thru town and shoots out all the street lights, refer to it as an act of Providence, and take up a subscription to repair 'em; if the mayor starts a rough house during a meeting of the town board, just say an important question was up last night and all the aldermen enthusiastically took a hand in discussing it."

"It won't hurt to chide Mrs. Bledsoe gently for her unseemly way of going into Pete McKinney's gin-mill and sassing Pete while yanking her husband out; it bothers Pete's customers and creates talk about one of the leading industries; it ought to be stopped. I had intended giving her a little roast when you came along, but if you'll do it it'll make you solid with Pete, and he'll double the size of his 'ad.'"

"Always give Parson Hollerman a good notice when he holds meeting 'round at the church. He's one of the boys, and he never says anything to interfere with their little diversions."

"I wouldn't crowd 'em on morality too heavy; the gamblers and joint operators will be your most liberal patrons if you rub the fur right, but they won't stand for lecturing. You'll find a bit of copy for next week's 'outside' on the hook, and the lye-brush over yonder in that cracked jar. Wish you luck."

Judge Jonas Watleton, veteran publisher of the Coal Valley Man-o'-War, thus gave his sage advice and benediction to the callow youth from Boston who was to succeed him. In spite of his very amiable rules, the old man had not laid by many ducats from his policy, and he was richer than he had been for 10 years when Reginald Danforth came out of Yankeeedom and plunked down \$100 and agreed to assume the mortgage on the plant.

Reginald had journeyed West to better his health and learn things. He had heard that immigration was pouring into Coal Valley on account of some recent big strikes, and he joined the tide.

Among that great, swaggering crowd of promoters, prospectors, civil engineers and blondest miners he was as a lamb in the center of a colony of mastiffs. He was the only man who affected eye-glasses and was sensitive about the lay of his hair.

He put the printer to work on the copy and for a day or two strolled around the shafts and asked questions. The questioned ones looked at him and grinned. But in this case the quality of persistence was not strained, and he got past the grin to the facts.

He drank soda at Pete's bar, where everybody else was guzzling brimstone elixir, and mingled cigarette smoke with the fierce glare of their briar pipes. The compassion which prompts strong men to spare women and children saved him. They talked freely with him and indulged in badly concealed gibes. He was here, with excessive formality, introduced to Big Ike, the terror of the camp.

Ike's formidable arsenal in his hip pockets and around his waist was scarcely as terrible as his menacing black eyes and long mustaches. As king of the bad men, he looked the part.

"Glad to meet yer, kid," said Ike, passing out a brawny paw. "Goin' to live in these parts?"

"A while, yes," said the young man. "Will you join me?"

You bet Ike would, and he tossed down a cargo of peace destroyers while Reginald sipped his lemonade thru a straw.

"I've bought the Man-o'-War, Mr. Ike," he said. "I'm going to be the publisher, but I want an editor."

"A man w'at kin write pieces, ch?" "Well, not exactly. I'll write the pieces. I just want an editor."

"I may be a thunderin' sight drunker'n I think I am pardner," said Ike, "but yer too many fer me."

"Are you employed in the daytime, Mr. Ike?" asked the publisher.

"Not on yer life! That's my time to 'moose myself. I just works nights here as banker for Pete's heads-I-win tails-you-lose layout."

"Coming directly to the point, how'd you like to be editor of the Man-o'-War in daytime for fifty a week?"

"W-h-a-t?"

Reginald repeated. "Why, I—I—I'm scared!" said Ike.

In truth, he was bewildered. He looked into the clear blue eyes of his young friend to see if there lurked any guile, in which event the publisher would have shortly needed the skill of a few surgeons.

"I'm going to run a paper here, different from what the other editor run," explained Reginald. "I may say some things that will—well excite comment. Now, I don't like to fight. It musses up your clothes and hurts the looks of your face."

"I want a man who can sit in the editorial room and argue with callers while I devote my time strictly to publishing. When I lit in this village I was told you could shoot straighter and quicker than any two men in it, and I said to myself that's the very man I want to edit the Man-o'-War for me till things kinder settle down."

A great light shot thru Big Ike's skull, and he would have let loose a war-whoop, but Reginald shook his head.

"Not a word, Mr. Ike, till the paper's out. Come around at 7 A. M. on the day of publication, and you'll find a nice little den fitted up for you with guns and jugs and things."

The deal was closed and the publisher proceeded in his quest of news. There was no lack. Something was doing in Coal Valley every minute in the day.

Reginald was a college-reared youth, and his powers of observation were good.

When his copy began going in to the printer, that very important gentleman gave peremptory notice that he was going fishing as soon as the paper was deposited in the postoffice.

The Man-o'-War was in the village postoffice at 6 o'clock Wednesday evening, and ready for distribution to patrons at 7 A. M. the next day, at which hour the new editor, armed to the teeth, went on duty in his den, which was designated on the door by the prominent sign: "The Editor."

You had to pass thru the publisher's room to reach the "editor." Big Ike had been thoroly drilled in his literary duties the evening before, and drew one week's salary in advance.

Precisely at 7.15, Jack Ironton, a strapping six-foot promoter, rushed into the publisher's office with a copy of the paper in one hand and a navy revolver in the other. Ironton had been floating wildcat mining stock, and the Man-o'-War had referred to his little

eccentricity in language that left no room for guess-work.

"I'm going to kill the man that wrote this!" yelled Ironton.

Reginald arose and adjusted his glasses.

"To what do you refer?" he asked. "You know damn well—that infernal lie about my mining stock."

"Oh, well; that concerns the editorial department," remarked the publisher affably. "Just step this way, please."

The guns in the editor's room could be heard clicking.

"The editorial department?" said Ironton dozedly. "Then what the devil are you?"

"Me! Why, I'm only the publisher. See"—reaching for the paper—"Reginald Danforth, publisher; Big Ike, editor."

"Is Big Ike your editor?"

"Yes; he's in the next room. Won't you step in?"

Reginald started to open the sanctum door.

"N-no; never mind," said Ironton, as he edged toward the door by which he had entered. "I guess it don't amount to much. By the way, you might send that paper of yours to my uncle, over in North Carolina—Wilmington. I forgot the street, but I'll look it up and send it to you. You needn't bother about the change."

Reginald resumed writing at his desk. But not for long.

"Where's the editor?"

This seeker of information carried a club. In his hurry he had neglected his hat, and his hair looked like a wind-swept Christmas tree. It was Julie Ferguson, the mayor. He didn't have his paper along, but the words the paper had used in describing him burned into his memory.

"Good morning, Mr. Ferguson," said the publisher, rising and extending a hand which the mayor was too busy to take; "just step this way"—and he opened the door. "A gentleman to see the editor, Ike," the young man announced, and then went back to his desk.

In about a second afterward there was the sound of things splintering in the editorial room, and three shots. The mayor staggered out with a shattered arm and a bullet thru his shoulder.

"Thru a ready?" asked Reginald, as the mayor oscillated thru his room. "Y-yes; I guess it's all right," said the battered visitor. "If you'll steady my pains a bit over to Dr. Hotson's office I'll be much obliged, and while he's at work on me we'll talk about a little 'ad.' I want you to run for my amusement palace over on the square."

Reginald put on his coat and performed the duty requested, returning with a contract for a display 'ad' to run six months, and the cash. In the publisher's room he found two callers waiting.

"Good morning, gentlemen," said Reginald. "One at a time, please. Which of you came first?"

A tall, thin gentleman with side-whiskers claimed priority. He didn't look dangerous, but since coming West the man from Boston had learned to risk no guesses on external appearances.

"I am the minister of the Everyman's Church, down the valley," said the spare man. "My name is Archibald Hollerman. May I read this criticism of yours in this morning's copy of the Man-o'-War?"

Of course he might, and the publisher said as much. The situation hadn't yet reached the stage requiring editorial assistance.

If Parson Hollerman really wants to do some good in this com-

munity, he'll quit teaching his parishioners how to sing psalms in upper G with a fall-off at the end of the line, and get after a job-lot of tin-horn gamblers from Kansas and Texas that has blown into this camp recently and turn the vials of Christian wrath upon them. We've no objection to a square game, but during our brief stay in Coal Valley we've been next to more outlaw playing than exists anywhere else this side of Hades; and if Parson Hollerman is really elected by grace to his job, it strikes us he'd say something about it, because he's in a position to know.

There's no use for him to try to dodge behind his clericals, because he was with us in Faro Jake's so-called Crystal Palace saloon Monday night, and he saw all we did. The time for a mush-and-milk campaign against the devil in this particular Garden of Eden has about struck twelve, and if the parson lacks sand to help push the work of reform along, he'll have to step aside and give place to a shepherd with the courage of his convictions.

The minister threw down the paper and lowered his spectacles.

"You dirty little imp!" he screamed. "You know that's an infamous pack of lies!"

"Ike!"

The swashbuckler strode heavily into the room.

"This is Parson Hollerman. He says there are no tin-horn gamblers in this town, and that he wasn't in Faro Jake's dive Monday night with Frenehy and Reddy cleaned out the tenderfoot from Indianapolis with a doctored deck."

"Am I ter understand that ther sky pilot is takin' some 'jections ter our editorials?" asked Ike.

"That's about what it amounts to," said the publisher.

Ike seized the thin man and carried him over to the window, held him dangling like a spider for a few minutes and then dropped him gently into a tray of new eggs which the groceryman below the print-shop had on display.

Reginald turned an inquiring look toward the other caller, who had been patiently waiting the termination of the transaction with Brother Hollerman.

"You're next," he said, with an encouraging smile toward the editor's door thru which Ike had disappeared. This visitor didn't look half as mad when he came in. Reginald recognized him as Frenehy, and guessed his original errand.

"Ze papah," said Frenehy, "pese some vera comical jokes—hah! hah! Me no mad. I want—what ze call it—inscribe for ten yeah. Here's ze money. It print ze fine Englishese language that I vill learn by—vat ze boys ze good stuff!"

Reginald took Frenehy's ten and escorted him to the door across from the one leading to the tiger.

There was just one more delegate of importance expected during the day. Reginald calculated the mail out of Coal Valley would reach the Near Rho dike camp about noon, and that Reginald might be looked for about 4 P. M.

The riders were really in earnest; they probably would be.

The roisterers over there had ridden into Coal Valley the night of the errand meeting at the school-house, out the lights, and spoiled the debate.

Reginald had investigated the matter and then taken pains to properly scribe the event. After deploring lack of police protection at Coal Valley for the purpose of encouraging other neighborly visit from the K

lers, he painted them individually in pens, calculated to inspire enthusiasm. It was a trifle vain over this article, and would have been sadly disappointed if the visitors had misconstrued it as a compliment.

Reginald didn't tell Ike what sort of a matinee was booked for the afternoon because it was against his principles to borrow trouble. As the mine

histles were blowing for dinner, Reginald donned his light overcoat and put on his kid gloves, and stepped into the editorial door.

"Ike," he said, "I'll step over to the tavern for lunch now, and will bring you something in my pocket when I get back. I don't expect there'll be anything doing for an hour or so, but you can't tell."

"All right, governor," returned the editor, who was sitting with his boots at the desk, pulling away at his pipe. "I'm doing all right; best job I struck since I lit in the camp."

"Thought you'd like literary work, Mr. Ike!"

"Oh, yes."

"I wish you'd shoot about three inches higher or else get 'em in the front end. That little explanation you made to the mayor went thru the partition and cut a hole in my hat. It was a brand-new one, too."

"Of course, having just been here one day I had to sorter guess at the range," said Ike apologetically. "I'll

be sure, he's here," said Ike, "but

eral slouch-hatted men lay out their leader's body, and then, with revolvers in each hand, charge across the lot.

"Crack! Crack! Crack!"

Three men dropped, and the others halted. Ike stepped from behind the tree, with his rifle ready for further remonstrance. While waiting developments, he mopped his brow with a large kerchief of indefinite color.

"What the devil—Big Ike!" exclaimed one of the assailants.

"You guessed right, pardner," said that gentleman. "You fellers come to lick the editor!"

"Sure!"

"Well, I'm him. Come on!"

"You're dreamin', Ike."

"Bet yer ten ter one I ain't. Ask 'im"—and he indicated with the Winchester's muzzle the Man-o'-War's publisher, who was sitting up in the window, calmly smoking a cigar.

"Ike," said Reginald, "if you're thru editing down there, 'spose you reload and come up. I hear somebody coming up the back stairs."

Ike slipped some more cartridges in the magazine, and shouldered arms. He started, then turned, and casually remarked to one of the unwounded Klondikers:

"Anything more you fellers want to see the editor about?"

"N-no; I guess not. Do you know if Dr. Lanret is in town today?"

"Yes, he's here," said Ike, "but

he's middlin' busy. I go off duty at six, and if you can't find anybody else I'll lend a hand fixin' your friends up. I got a bottle o' liniment 'round at Pete's you might get. Tell 'im I sent you. So long."

The expected trouble from the rear was a false alarm and the day ended in quietude. That night a delegation of law-abiding citizens, headed by the mayor, who had his arm neatly bandaged, got out the band and serenaded the Man-o'-War's chief and his editorial assistant. When it came Reginald's time to speak, he led Ike to the front, and, standing with his arm thru the editor's, he said:

"Ike and me have formed a combination to get out a paper, and tell the truth in it 52 times a year if it breaks the press. Some people have a fad to be missionaries and civilize cannibals; others want to Christianize the Chinaman."

"The Man-o'-War has no such holy mission. It only aims to make stealing, cheating at cards, lying about mining property, busting up meetings and general hyperis, so odious that you won't tolerate it."

"I'm not a reformer of the witch-burning type. I know my looks and manners are indicative of the dude, but with Ike's help I hope to get over it."

"And we are going to run this paper if it uses up all the ammunition in town, and the first fellow who licks his wife, or swindles at cards, or works a flim-flam game of any sort may expect the scrutiny of the public thru the Man-o'-War, and if it don't sit well on his stomach, he can drop in and have it out with the editor."

"I'm glad you called, because I wanted to unload my mind so as to enable you to place the responsibility for any funerals which may occur thru

the Man-o'-War's course.

"Now, if you boys will step upstairs, we'll uncork a few boxes of cigars. Come on; there's no danger. The editor's off duty."

THE SILK WORM AND ITS WORK

By F. D. W.

Altho many of the larger animals have been tamed by man and raised for his use, the insects have received little attention. With a few exceptions, insects are still in a state of nature, tho some of them could be made valuable workers for mankind. The honeybee is one familiar example of an insect which has been domesticated—perhaps it is too much to say that it has been tamed. Another example is the silk worm, whose product is no less valuable than that of the bee.

The silk worm may very properly be classed among the domestic animals, as much as the horse or cow. In reality it is more domestic than they are, since it is no longer known in its wild state but depends upon the care and attention of mankind for its existence. If left alone, it would probably soon perish.

The worm or larva is well represented in Fig. 1, and is about as ugly in appearance as caterpillars usually are. The color is at first dark gray, but it becomes lighter with age until it is a creamy white. It belongs to a

family called by scientific men "Bombycidae," or spinners, which belongs to the eastern part of Asia. The silk worm forms one genus of the family and is known as "Bombyxmori."

At first the two objects in the life of the larva are to eat and moult or cast its skin. It has a voracious appetite, and in three or four days will eat more than its clothes can hold, when it rests for two or three days, then crawls out of its old suit and, like the healthy small boy, starts in anew. This is usually done four times, when the worm, having attained to its full size, is ready to begin spinning.

The silk is secreted in two long vessels which extend from the head back along the alimentary canal. It is in the form of a liquid, which is expelled from an organ at the head called a spinneret, and immediately hardens in the form of a thread. This the worm throws in loops about itself so as to make a cocoon which is a protection against cold and wet.

The construction of the cocoon requires about five days. After it is finished the worm changes to a pupa. Its life, from the time of hatching to this last stage, varies from 30 to 40 days. A cocoon is shown in Fig. 2. The outer part is composed of a loose silk used for cording. Within is a covering made of a single thread which may be more than a thousand feet in length.

When the perfect insect is ready to emerge from the cocoon it first ejects a liquid upon its case that softens it, so that this can be easily broken. It then pushes its way up thru the mass of threads, breaking them so that they are of little value for reeling. For this reason it is necessary to kill the pupa before the change can take place, which is done by means of steaming, or exposing to a dry heat. So the indus-

trious little insect which spent its days in making the silk must sacrifice its life to make its work of any value to its owner.

The perfect insect is a moth and is shown in Fig. 3. Its creamy white wings are marked with brown, making it quite pretty. But the wings are ornamental only. The little creature has been bred for so long a time in captivity that it can no longer fly but must content itself with crawling, with no higher aspirations than the worm from which it came. It is short of life. In a few days the eggs are laid and it dies, having completed its cycle of existence.

Brief History of Silk Culture

Silk culture has formed an interesting chapter in the world's history. It was practiced among the Chinese in the remote ages, probably no less than 4,000 years ago. In the 18th century, B. C., Emperor Hwang-Ti encouraged the industry. His empress, Si-Ling-Chi, gave her personal attention to the breeding of the insects and the manufacture of silk, and as a reward was deified and became known as the goddess of silk worms.

The methods of culture and manufacture of silk were secrets which were jealously guarded by the Chinese for nearly 2,000 years, when they became known to the Koreans and afterwards were transmitted to Japan. The small quantities of silk which reached Europe during these years were carried by way of the long overland route thru Persia.

It was not until 555 A. D. that silk culture began in Europe. In that year two monks brought some eggs to Constantinople. It was at the risk of their lives that they did so, since it was an offence punishable with death to take the eggs or insects from the country, but they evaded the officials by concealing the eggs in bamboo stiffs. The insects thus introduced were the ancestors of all the silk worms in Europe until 1865, when importations were made from Japan. Thus an industry which was to give employment to millions of people and bring untold wealth to the Mediterranean countries depended upon the sticks carried by two wandering priests.

Silk culture is not new to this country. It was introduced into the Virginian colony in 1619 and considerable encouragement given by the English government, but it did not flourish, altho the climate is favorable for the insect and for the mulberry tree whose leaves supply it with food. Various attempts have been made since then to create an interest in the industry, the most notable of which was about 1830, when the Chinese mulberry was introduced, which was thought to solve the problem of profitable silk production. But the solution came in an unexpected way. The trees proved worthless, as they could not stand frost. As a result the worms soon disappeared.

A small amount is now produced in the southern and central states. Climatic conditions are favorable there, both for the worm and the mulberry, but the labor of feeding them is too expensive. It would seem, however, altho they might be profitably raised on a small scale in many families where the mulberry will grow, which is in nearly every section of the country except the extreme north. The active life of the insect is included in about seven or eight weeks, the remainder of the year being spent in the egg. There is only one brood a year of the variety most commonly raised, altho there are others which produce two, three or four. So they do not need feeding for many days. They are interesting little creatures and should afford as much pleasure and perhaps as much profit as pigeons, hares and some of the other pet stock raised by young people.



Fig. 1. Larva of Silk Worm (Bombyxmori).

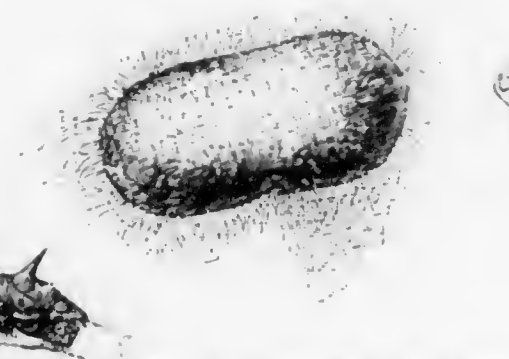


Fig. 2. Cocoon of Silk Worm.

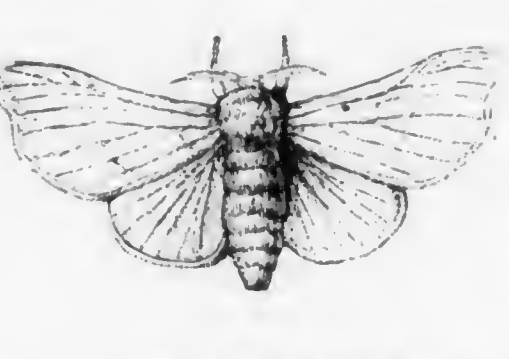


Fig. 3. Moth of Silk Worm.

Household

TRAINING WOMEN TO BE GARDENERS

In European countries like England, Germany, Russia and Belgium, there are established and successful schools where women are trained to be gardeners. America has but one school devoted exclusively to the teaching of horticulture to women, and that one has room for only 10 students.

The Pennsylvania School of Horticulture for Women is thus a unique institution. It is located in Montgomery County, Pa., some 18 miles from Philadelphia, and on a farm of 71 acres, all under cultivation. There is an apple orchard, seven acres of asparagus, a vineyard and three acres of strawberry, while in close proximity to the school buildings are vegetable, fruit and flower gardens, greenhouses, cold frames and the like.

The school is one for real work and no place for amusement only. The courses cover a period of two years, with two months of holidays, at different months each year. The plan is to have the girls learn by actual experience just what work each month of the twelve brings in its train.

The girls raise the products which supply the school tables. Each student also has a small plot of ground which she may plant and cultivate for her own amusement and profit outside of school hours. In addition to actual work in the garden, the girls are trained in poultry raising, beekeeping, chemistry, agricultural bookkeeping and carpentry, and are taught how to preserve the fruits and vegetables which they grow.

Many prominent women are interested in the success of the school, which has been established about two years, and which aims to turn out graduates who will be able to make a living from the soil, if they must, or manage their own estates, if they are better off financially, or perhaps to teach or lecture.

There is another school on somewhat similar lines located at Groton, Mass., but landscape architecture as well as horticulture is taught there. The grounds embrace 17 acres, including meadow and pasture land, a fruit orchard and vegetable and flower gardens.

Practical education in gardening and kindred subjects seems as well worth while for girls as for boys, for women are competing with men on the farms as well as in the office and store, and certainly they have a better chance of success when trained in the fundamentals of soil culture.—E. I. Farrington, Groton, Mass.

COLLECTING DRUG PLANTS

Early autumn is the time when a large proportion of the plants useful for medicine are ready to be gathered. The members of the mint family are gathered when in flower, and this occurs in late August or early September with most varieties. The leaves and flowering tops are the parts of catnip, spearmint, peppermint, hoarhound, pennyroyal and skullcap that are used. These parts are dried as rapidly as possible in the shade and shipped in bags, when sold as dried herbs. When wanted for their oil, they must be sent fresh and juicy to the distillery. Catnip, spearmint, peppermint and skullcap bring from 3 to 5 cents per pound; hoarhound and pennyroyal from 12 to 2 cents per pound, varying with the fluctuations of demand and supply.

The leaves of the mountain laurel (*Kalmia latifolia*) have astringent properties which make them valuable to the drug trade. These are gathered

in autumn and dried. The dried leaves bring 3 or 4 cents a pound. The roots of plants for the drug market should be carefully washed, the fleshy kinds being cut crosswise into sections and dried quickly. Roots must be kept dry.

The root of goldenseal (*Hydrastis canadensis*) is very useful in catarrhal disorders. It is a perennial plant growing in well-drained parts of open woods. The dried root brings from \$1 to \$1.50 per pound. This plant is also known by the local name of ground raspberry, because the developed seed head borne in late summer much resembles a raspberry. The root is gathered after the seed has ripened. It is yellow wherever covered by the soil. The growth of the plant is unique. Each stem bears one large leaf and one small one on a side stem.

The root of Elecampane is used when the plant is two years old, and never when it is over three years. It is useful in catarrhal troubles. It is cleaned carefully and dried for shipment. Dandelion is an important drug root which should be gathered in September. The dried root of taraxacum brings about 5 cents a pound. The roots of the docks, the broad-leaved dock (*Rumex obtusifolius*) and the yellow dock (*Rumex crispus*) are useful to the drug trade, and bring the shipper from 4 to 6 cents a pound. They are washed and split before drying. Lady Slipper Root (*Cypripedium bistratum*) is used as a nerve tonic. The flower of this variety is a faint yellow. The root stock, together with its fibrous roots, are used. This root brings about 35 cents per pound.

In our meadows, the roots of the Blue Flag (*Iris versicolor*) poisonous, bring 7 to 10 cents a pound; the skunk, or meadow cabbage, cut crosswise and dried, brings 4 to 7 cents a pound; and the American Helibore (*Veratrum viride*), containing a narcotic poison, from 3 to 10 cents a pound. These should be gathered early. The leaves and tops of the bonaset are the parts used. This plant (*Eupatorium perfoliatum*) is known by its long-pointed leaves, borne in pairs, which unite at the base so that the stem passes thru them, and by its soft white flower heads. It is common in our meadows. The dried product brings about 2 cents a pound.—M. Roberts Conover, Monmouth Co., N. J.

UNCONSCIOUS INJUSTICE TO CHILDREN

By Hilda Richmond

With the best intentions in the world many fond fathers and mothers are guilty of criminal cruelty to their children, for whom they would willingly lay down their lives if occasion demanded. This is especially true of parents who have had what may be called a "hard" childhood. Where a man or woman in youth had too many chores to do, or was subjected to rigorous discipline, or in any way was cheated out of the joys of childhood, the reaction is apt to take the form of special indulgences to the boys and girls which come to them later in life. "I never want my children to have to work as I had to when I was young," is a common expression, and while it may be a merciful and just protest against injuring childhood, it may also be easily magnified into the means of cheating the children out of much of the joy and success of living, then and forever after.

A man, whose parents in his youth had hoped to make a professional man of him and kept him in school until he was twenty-one, determined to subject his boys to no such hardship. He hated school with all the intensity of his being, and longed for the wide fields and the healthy work of the farm. So he

openly announced that his boys were not to be kept in school unless they wanted to go. They were not to be made to suffer as he suffered. Of course the youngsters quickly took advantage of such permission, and remained away from school when they pleased. A more distressing set of young outlaws would be hard to imagine, and too late the father found that instead of being kind to his boys he was cruel in the extreme. His parents had been cruel to him by seeking to fit him for something in life his soul loathed, but their cruelty was mild compared with the things he made possible to his children thru neglect.

In another instance a woman remembered with horror that when she had refused to take medicine in childhood her nose was held shut and the medicine poured down her unwilling throat. Also, she was promptly punished if she cried over the indignity. She determined to bring up her children by easier and more gentle methods, but the scenes in her home when a dose of medicine must be administered pass description. Many people are sure it would be less cruel to hold the child and make it take the medicine than to injure it for life as she is doing by her persuasive methods. The least pain or discomfort results in such roaring and kicking and screaming as to make it necessary to almost move out of the vicinity. Yet that mother wants to be kind to her children.

And when it comes to work and little hardships that all children should learn to endure bravely, the wrong is ten times greater. Of course, the mother heart longs to take every hard thing out of the pathway of the child, but that is the worst possible thing to do. It is far easier to do the work alone than to bother with awkward little helpers, and it certainly is a privilege to bear hardships for those we love, but to thus cheat the children is criminal. Out in the great battle of life they will quickly go down to defeat if there is no one to take the difficulties out of the way, and it is certain there will not be; but the boys and girls who have not been cheated will go confidently to success.

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PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters each pattern exactly as shown in the accompanying description. We will not be responsible for correct fitting of your order unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt and age for children's patterns. Address: Pennsylvania Farmer, 214-18 12th St., Philadelphia, Pa.



5888—Ladies' Three-Quarter Skirt. Five sizes, 22 to 30 inches waist. Size 24 measures 22 yards around lower edge and requires 3 1/2 yards of 36-inch goods. Price, 10 cents.

5435—Ladies' Dress, Closed at Left Side of Front.—Six sizes, 32 to 40 inches bust. Size 36 needs 6 1/2 yards of 36-inch material. Price, 10 cents.

5992—Children's Dress.—Sizes 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100. Price, 10 cents.

6246—Ladies' Shirt Waist.—Five sizes, 34 to 42 inches bust measure. Size 36 requires 2 1/2 yards of 36-inch material; 2 1/2 yards of 44-inch material. Price, 10 cents.

6032—Ladies' Dressing Sack.—Five sizes, 34 to 42 inches bust measure. Size 36 needs 2 1/2 yards of 36-inch goods; 1 yard of 27-inch contrasting goods. Price, 10 cents.

A Better Machine Than This Cannot Be Bought at Any Price.



\$19.00

20 Year Guarantee.—Complete Attachments

PENNSYLVANIA FARMER, 214-18 South 12th Street, Philadelphia, Pa.

Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., July 14, 1913. There was little trading in the wholesale market on butter and no important change in the general situation. Defects in receipts due to hot weather, necessitated sales at relatively low prices. Strictly fresh eggs in surplus well cleaned up. Offerings of heat-damaged stock produced dull and irregular prices. But the large amounts of unattractive stock brought dull prices. Bruling chicken trade quiet and unimportant. Vegetable receipts were light and were not much trading. Prices ruled as follows:

Butter.—Creamery, choice, 28c; Country, 27c; Fancy, 16c; good, 14c; 15c. Eggs.—Steady. State, fresh, 22c; 23c; Live Poultry.—Steady. Fowls, 16c; 17c; geese, 15c; 16c; ducks, 15c; 16c; turkeys, 12c; 13c. Vegetables.—Potatoes, extra, home-grown, 45c; 50c; 55c; 60c; 65c; 70c; 75c; 80c; 85c; 90c; 95c; 1.00; 1.05; 1.10; 1.15; 1.20; 1.25; 1.30; 1.35; 1.40; 1.45; 1.50; 1.55; 1.60; 1.65; 1.70; 1.75; 1.80; 1.85; 1.90; 1.95; 2.00; 2.05; 2.10; 2.15; 2.20; 2.25; 2.30; 2.35; 2.40; 2.45; 2.50; 2.55; 2.60; 2.65; 2.70; 2.75; 2.80; 2.85; 2.90; 2.95; 3.00; 3.05; 3.10; 3.15; 3.20; 3.25; 3.30; 3.35; 3.40; 3.45; 3.50; 3.55; 3.60; 3.65; 3.70; 3.75; 3.80; 3.85; 3.90; 3.95; 4.00; 4.05; 4.10; 4.15; 4.20; 4.25; 4.30; 4.35; 4.40; 4.45; 4.50; 4.55; 4.60; 4.65; 4.70; 4.75; 4.80; 4.85; 4.90; 4.95; 5.00; 5.05; 5.10; 5.15; 5.20; 5.25; 5.30; 5.35; 5.40; 5.45; 5.50; 5.55; 5.60; 5.65; 5.70; 5.75; 5.80; 5.85; 5.90; 5.95; 6.00; 6.05; 6.10; 6.15; 6.20; 6.25; 6.30; 6.35; 6.40; 6.45; 6.50; 6.55; 6.60; 6.65; 6.70; 6.75; 6.80; 6.85; 6.90; 6.95; 7.00; 7.05; 7.10; 7.15; 7.20; 7.25; 7.30; 7.35; 7.40; 7.45; 7.50; 7.55; 7.60; 7.65; 7.70; 7.75; 7.80; 7.85; 7.90; 7.95; 8.00; 8.05; 8.10; 8.15; 8.20; 8.25; 8.30; 8.35; 8.40; 8.45; 8.50; 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Veterinary

(Conducted by W. C. Fair, V. S.)
(Advice from this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer. Initials only will be published. When reply by mail is requested, it becomes private practice, and a fee of \$1 must accompany the letter. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, would make one of the most valuable medical symposiums a farmer-stockman could obtain.)

Scours.—I am quite interested in the veterinary department of your paper and would like to have your advice regarding a 5-year-old mule that is inclined to scour whenever he is driven. I think he drinks too much water. He is never attacked with these scouring spells after dinner, but every morning scours until about noon. R. P. C., Salisbury, Md.—Your mule will be benefited by having his teeth floated, but, of course, it should be done by a skilled veterinarian. Give him 3 oz. of ground ginger, 1 dr. ground cinnamon and a teaspoonful powdered catechu, at a dose in feed, twice a day. It is possible that a change of feed will do him good. In order to correct his kidney trouble, you had better give him 1 dr. potassium iodide at a dose in feed, twice a day.

Fistula.—We have a mare that has a running sore on withers. Would like to know what to do for it. H. E. A., Green Castle, Pa.—Open up abscess, remove dead tissue and apply tincture iodine once a day for 3 days; then inject a 2-percent solution of protargol twice a day until wound heals. I have obtained good results by filling a gelatine capsule with 1 part iodoform and 5 parts boracic acid and dropping it to bottom of sinus every day or two.

Dilated Vein.—There seems to be enlargement of the milk vein on left side of under part of abdomen of one of our heifers. This heifer came fresh some 3 or 4 weeks ago. I would like to know what can be done for her. She seems to be in perfect health and is milking fine. F. C. W., Sandy Lake, Pa.—In a case of this kind, you will find it normal to contract the parts back to normal size while the cow is milking heavily. Hand rub the parts gently for a few minutes night and morning, or else leave it alone.

NOTES AND BULLETINS

Tobacco Hornworm.—Entomology Circular 173, of the U. S. Department of Agriculture, discusses the work of the department in discovering an effective remedy for the hornworm on tobacco. Paris green was found effective in killing the worms, but it also injured the plants. It is now found that di-plumbic arsenate of lead meets all requirements, as it kills the worms and does not injure the plants. It is mixed with an equal bulk of finely-sifted, freshly-burned wood ashes and applied with a dust gun when the dew is on the plants and there is no breeze. From 24 to 5 pounds of the arsenate of lead is required per acre, depending upon the stage of the growth of the plant. The circular will be sent free upon request to the department.

Hog Feeding.—Bulletin 94, of the Oklahoma Experiment Station, Stillwater, Okla., contains an extensive and thorough discussion of hog feeding. It gives the following ration for fattening hogs: (1) Corn or kafir chop, 7 parts, meat meal, 1 part by weight; well mixed and soaked from one feeding period to the next. (2) Corn or kafir chop, 8 parts; linseed meal, 1 part, treated as before. (3) Corn or kafir chop, 3 parts; wheat shorts, 1 part, treated as before. (4) Corn or kafir chop, 1 part; skim-milk or buttermilk, 2 or 3 parts by measure. Rations for growing pigs are also given.

Meats Put Under Food and Drugs Act.—By unanimous vote of the Secretaries of the Agricultural, Treasury and Commerce departments of the federal government, domestic meat and animal food products have been put under the provisions of the food and drugs act. The change does not interfere with the meat inspection work as it has been conducted in the past, but it will enable the department to seize and prevent the sale of bad or adulterated meats in interstate commerce, thus controlling the meat foods from the hoof to the retailer. The new ruling went into effect June 16.

Ban on Adulterated Vinegar.—State

Dairy and Food Commissioner Foust has issued notice of a state-wide crusade against merchants who sell vinegar as "cider vinegar" when in reality it is a concoction of wood acid. Of 550 samples already taken by the Department, more than half have been found to be impure. Over 225 prosecutions have already been ordered.

Fox Ranches in Alaska.—The Secretary of Commerce has announced that 12 islands on the coast of Alaska will be leased for a period of five years to persons who wish to engage in rearing foxes. The demand for foxes so far exceeds the supply that prices are very good. Full information on leases, etc., can be obtained by writing the Secretary of Commerce, Washington, D. C.

Milk Goat Show.—Rules, classification and prizes for the Milk Goat Show, to be held in Exposition Park, Rock-ester, N. Y., September 13 to 27, 1913, are now ready for distribution. Copies may be obtained free upon request to Theo. F. Jager, Supt., Barnard, N. Y. Entries close September 10, but should be sent in as early as possible.

Government Inspection of Packing Houses.—The Secretary of Agriculture has appointed three experts in veterinary science, meat inspection and public sanitation, to inspect and report on meat-packing establishments operating under federal supervision in New York, Massachusetts, Connecticut, Missouri and Illinois. The Secretary is planning to extend this work, and by appointing leading authorities he hopes to foster confidence of the public in meat inspection work. The appointments now made are Dr. W. T. Sedgwick, professor of bacteriology and sanitary engineering, Massachusetts Institute of Technology, Boston; Dr. V. A. Moore, professor of pathology, Cornell University, and Dr. J. W. Connaway, of the Missouri Agricultural College. This inspection work will not supersede or lessen the regular inspection of the Bureau of Animal Industry, but will serve as a check upon the latter.

Value of Good Roads.—The U. S. Department of Agriculture has collected data showing the direct effect of good roads upon land values and general economic welfare of a community. In Lee County, Virginia, a farm of 100 acres, offered for sale at \$1,800 before its main road was improved, has since the improvement, increased to \$3,000. Another farm of 188 acres in the same community increased \$3,000 in value, due to road improvement. In Jackson County, Alabama, land values have advanced from \$4.90 per acre in 1900 to \$9.50 in 1910, due almost entirely to road improvement.

U. S. CROP REPORT—JULY

The Crop Reporting Board of the U. S. Department of Agriculture estimates crop conditions on July 1 as follows:

Crop	Average, 1913	Condition, July 1	10-yr. Av.
Win. wheat...	30,938	81.6	79.9
Spr. wheat...	18,663	73.8	85.3
All wheat...	49,601	78.6	81.9
Corn...	106,884	86.9	84.0
Oats...	38,341	76.3	84.5
Barley...	7,255	76.6	65.4
Rye...	...	88.6	89.7
W. potatoes...	3,685	86.2	88.9
Tobacco...	1,144	82.8	84.8
Flax...	2,425	82.0	87.2
Rice...	824	88.4	88.5
Hay...	...	80.5	*82.2
Apples...	...	59.4	59.1

*Five-year average.
The amount of wheat remaining on farms July 1 is estimated at 4.9 percent of last year's crop, or about 35,515,000 bushels, as compared with 23,876,000 on July 1, 1912.

The yields indicated by the condition of crops on July 1, 1913, and final yields in preceding years, for comparison, follow:

Crop	1912	1913	Final 1913	Final 1912
Win. wheat...	15.6	15.1	483	400
Spr. wheat...	11.7	17.2	218	330
All wheat...	14.1	15.9	701	730
Corn...	27.8	29.2	2,971	3,125
Oats...	26.9	37.4	1,031	1,418
Barley...	22.8	29.7	165	224
Rye...	16.1	16.8	...	36
W. potatoes...	93.1	113.4	343	421
Tobacco, lbs.	809.0	785.5	926	993
Flax...	8.7	9.8	91	98
Rice...	33.0	34.7	27	25
Hay, tons...	1.33	1.47	...	73

*Interpreted from condition reports.

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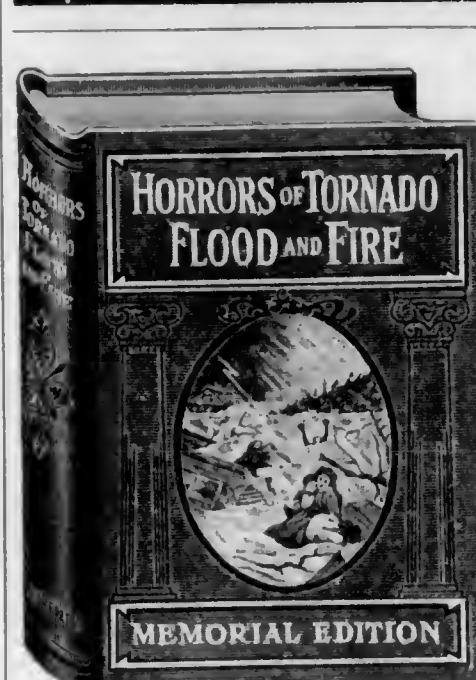
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Profit or Loss With An Old Orchard

---By Dr. G. M. Twitchell, Maine

The greatest criticism against agricultural experimental work is that the fact of profit or loss is not made public in detail. With liberal state and United States appropriations, experiments are worked out systematically to prove or disprove old-time theories, and most valuable lessons are presented. But the average farmer, the one man for whom all this work should be carried on, sees the great expenditure of labor and money and this, with him, overshadows the results, simply because he can not do as the experimenters do, and the burden of cost, apparent to the onlooker, frightens him. Over and over again, as these experiments are inspected, will one hear the questions: "Can I afford to do this?" "Will it pay me to follow the path here indicated?" "What does it cost to do this work?" etc., etc.

The lack of this information is a serious drawback because the experiments are of vital importance. Their indirect influence is recognized, but their direct effect is too often lost, simply for the reason that no figures are given to show cost of labor, etc., entering in.

Naturally this criticism can not hold against those negative experiments, those conducted to prove a thing not so, and which therefore are failures of necessity. But it does hold with increasing force against all positive work. Certain steps carefully taken lead to certain results. This much is settled, but the man at the bottom of the ladder, the one the state and nation should help most, and first, sees little or nothing in most of the experimental work that he can apply, simply because items of cost, relative profits or losses, are not set clear before the reader.

It was this fact which, in 1908, led me to purchase a small field containing a lot of old apple trees, a totally neglected field for 20 years, the trees



TYPICAL TREES OF ORCHARD AS PURCHASED IN 1908.



A VIEW OF THE ORCHARD IN 1911, SHOWING RESULT OF THREE YEARS WORK IN RECLAIMING.

naturally good, strong land, in one of the best orchard towns of the state. After careful inspection, I determined to reclaim those trees and find the cost.

Fertilizer, 10 pounds mixed chemicals, 17 cents. Spraying three times, 17 cents. Cutting grass, 3

being in such condition that the owners planned to cut down every one. Illustration No. 1 shows the condition of these trees when I purchased. The soil is light, rocky, with very firm, gravelly sub-soil.

The story is a simple one, but the figures, to the accuracy of which I am willing to make oath, must satisfy any worker that it will pay to give more attention to old trees. I have not obtained the results others have reached thru intense cultivation, these trees being in sod; but I have proved the cost, and in the years believe the investment as safe as any I could make.

A long neglected tree is like a sick man, lacking in vitality, and therefore the first treatment must be to arouse the latent forces and start a fresh circulation thru all living tissue. At the same time there is no place here for heroic treatment in pruning.

That must be done gradually, not to overtax the depleted energies. For these reasons I was three years getting out the dead wood, removing all water shoots and suckers, and fully opening the tops. Illustration No. 2 shows the trees June 1, 1911, after three years' work, and tells its own story.

Now for the cost, itemized by years:

1908.—Cutting dead wood, water shoots and suckers, 25 cents per tree. Ten pounds Fisher formula fertilizer, sowed on sod out where the branches drip, 26 cents per tree. Cutting grass, three times, 3 cents per tree. Total, 54 cents per tree.

1909.—Pruning and digging borers, 30 cents. Ten pounds same fertilizer, 25 cents. Spraying once, 4 cents. Cutting grass, 3 cents. Total, 62 cents per tree.

1910.—Scrapping trees and scrubbing with lime wash in March, 17 cents. Pruning and hunting borers, 10 cents. Fertilizer, 10 pounds mixed chemicals, 17 cents. Spraying twice, 12 cents. Cutting grass, 3 cents. Total, 59 cents per tree.

1911.—Pruning and digging borers, 10 cents.

Fertilizer, 10 pounds mixed chemicals, 17 cents. Spraying three times, 17 cents. Cutting grass, 3

(Continued on page 4.)

Sowing Crimson Clover.

By Prof. A. E. GRANTHAM,
Agronomist Delaware Experiment Station.

During the past few years the value of crimson clover for soil improvement has been fully demonstrated in Delaware, Maryland and parts of New Jersey. There is little doubt that it is the cheapest and most effective green manure crop that can be grown in these sections. Considering the season and the number of months the plant occupies the ground, the cost of seed, fertilizers and soil preparation as contrasted with the value of the crop removed and the effects on the soil, crimson clover growing is highly profitable. The experience of hundreds of farmers has shown that this clover will produce a crop of hay and leave the soil in a condition equivalent to applying 12 loads of stable manure per acre. However, on lands of low fertility the entire crop is turned under. After the soil has been improved, as good results are secured where the crop is cut and removed as where plowed under.

Adaptation.—Crimson clover is especially well adapted to the climatic condition of the states mentioned. The mild, even climate, with the absence of sudden and extreme changes of temperature favor the best development of the plant. The amount and distribution of the rainfall during the summer months insure the prompt germination of the seed during the heated portion of the year. The open winters allow the clover to make some growth nearly every month, which is an advantage in conserving the fertility of the soil and in preventing blowing and washing. The length of the growing season is such that crimson clover may be followed by other crops, which, in turn, may be seeded to clover again in the fall. Also, a seed crop of crimson clover may be removed in time to grow a crop of corn or late potatoes.

Soils.—Crimson clover will grow on any type of soil, varying from a stiff clay to almost pure sand, although the plant will thrive best, other conditions being equal, on a loam soil. Certain precautions in sowing and fertilizing are necessary to secure good results on heavy clays or on very sandy soils. Earlier sowing should be the practice on clay soils, as the plant must be well established to prevent heaving out during winter. A poor, sandy soil will require a small application of mineral fertilizers, phosphoric acid and potash, in order to start the plants. Often the lack of organic matter or humus in the soil will prevent the retention of moisture to such an extent that the clover will die soon after germination, if it germinates at all. While crimson clover has the reputation of growing on relatively poor land, yet in introducing the crop some attention might be paid to the condition of the soil as to moisture and plant food at seeding time.

Preparation of the Soil.—The general practice of sowing clover is to follow some cultivated crop. This does away with the necessity for special soil preparation or the use of a nurse crop. One of the advantages of crimson clover is its habit of starting growth in other growing vegetation. Crimson clover sown in corn, tomatoes or potatoes, will catch readily if the seed bed is in good condition. Moisture and a light covering of the seed are necessary to insure prompt germination and development. Hence, it will pay well to thoroughly cultivate the previous crop, as the shallow mulch formed by proper cultivation will not only be of advantage to the growing corn, but the moist

ure retained by this practice will leave the soil in the best condition for sowing clover.

As crimson clover is sown at the hottest season of the year, some care must be taken to have moisture conditions favorable. With certain crops—as tomatoes—it may not be practicable to harrow in the seed, but the shade of the vegetation may serve to start germination. Most farmers aim to sow at the last cultivation of the crop, the labor serving a double purpose. On soils of low fertility, or after a crop like wheat or oats, the ground must be especially prepared either by disking or plowing. When sown in this manner the growth is generally more rapid, a better distributed stand is secured, and the plants pass the winter in a more vigorous condition.

Time of Seeding.—Crimson clover, when following corn or tomatoes, is generally sown at the last working of the crop. This saves additional soil preparation and the plants are given an early start. However, sowing may be delayed and the seed harrowed in later. The general practice in Delaware is to sow from July 1st to August 15th. A soil in a good state of fertility will bear sowing somewhat later than a poor soil. Seeding may take place on especially prepared ground in the open somewhat later than when sown in corn. In any case, it is very desirable to have the plants make sufficient growth for good rooting before freezing weather. How late it is safe to sow is largely a matter of season.

Rate of Seeding.—Practice has determined the use of about 15 pounds of seed per acre. Few growers sow more or less. Thick seeding is recommended by some growers to prevent heaving out. The thick fall growth may in some cases serve to cover the ground so as to lessen the daily freezing and thawing of the surface, which will injure the plants. Too thick growth does not allow so perfect development of the individual plant, and on thin soil the dense stand interferes with the size and maturity of the crop.

Methods of Seeding.—Crimson clover is generally sown broadcast by hand, or with a grass seeder. A portable seeder or hand sower is necessary in standing corn. The even distribution of the seed is facilitated by sowing from horseback, although more seed is required because of lodging. On especially prepared ground in the open the wheelbarrow seeder works well. Where practicable, it is desirable to cover the seed lightly. The practice of sowing at the last cultivation is, perhaps, the cheapest method. If possible, seeding should take place immediately after a rain. Much clover is lost each year from sowing on ground with only enough moisture to germinate the seed. The subsequent hot dry weather prevents further development. On some soils sowing immediately before a rain may be satisfactory, but on soils inclined to run together or bake, the plants may fail to get thru. The general practice is to cover the seed.

Fertilizers.—Like other clovers, crimson clover is a heavy feeder of mineral plant food, phosphoric acid and potash, especially the latter. To soils lacking these elements in available form must be added some fertilizer for the clover. The general practice is to apply the fertilizer to the regular crop only, the clover feeding on the residue in the soil. Where the ground is in good condition and properly fertilized for corn

and tomatoes, no fertilizer need be applied for clover following the crops. In order to get a start on poor sandy soils it will be necessary to apply some phosphoric acid and potash. From 300 to 400 pounds per acre of a mixture of equal parts of acid phosphate and kainit should be sufficient. Nitrogenous fertilizer is not needed, save in extreme conditions, and then only for starting growth. When sown on open ground, it will pay in most cases to use some mineral fertilizer. In any case, the minerals are not lost and will be available for succeeding crops.

Some growers claim good success from top-dressing the clover with acid phosphate and potash late in February and March. This promotes a thrifty growth, and less fertilizer need be applied for the following crop. The standard fertilizer for corn, where crimson clover is turned under, is a mixture of acid phosphate and muriate of potash or kainit.

The value of lime for stimulating growth, or correcting soil conditions for crimson clover, does not seem to be fully decided by growers. Experiments indicate that lime is of benefit on soils of a clay type. However, as most of the crimson clover is grown on a sandy loam type of soil, it is possible that better soil ventilation and aeration prevents an extremely acid condition, and hence the failure to note marked results from lime on that type of soil.

Inoculation.—On soils where crimson clover has not been previously grown it is advisable to inoculate. The cultures for inoculation may be secured from the U. S. Department of Agriculture or from commercial firms. Another method of inoculation is thru the introduction of a soil from a field where crimson clover has been successfully grown, as indicated by the nodules on the roots. Two or three hundred pounds of this soil thoroughly mixed with an equal quantity of ordinary soil will grow sufficient bulk to enable even distribution over an acre.

Sow Good Seed.—The failure to get a satisfactory stand of crimson clover is often attributable to low-grade seed. A poor stand results either from seed that will not grow, or from the presence of considerable weed seed or foreign material. The lack of vitality may be due to the seed being harvested too early, to heating, to molding before threshing, or to age. When the seed is fresh it is of a bright reddish-yellow color, and has a high polish. The color changes to a rusty brown with age, and becomes dull and lustrous. Seed of dull appearance should be carefully examined.

All crimson clover seed should be tested for germination before sowing. Because seed is fresh is no guarantee that it will grow. A good grade of crimson clover seed should germinate 85 to 95 percent. Seed over a year old is likely to deteriorate rapidly. Native grown seed is usually better than that imported. Crimson clover is not commonly adulterated; at any rate, it may be readily identified by the color, and by its almost oval shape, which will allow it to roll easily from a smooth surface. Crimson clover seed is cheaper at present than it has been for a number of years, and now is a good time to sow a large acreage for soil improvement.

FARM DEMONSTRATION IN NEW JERSEY

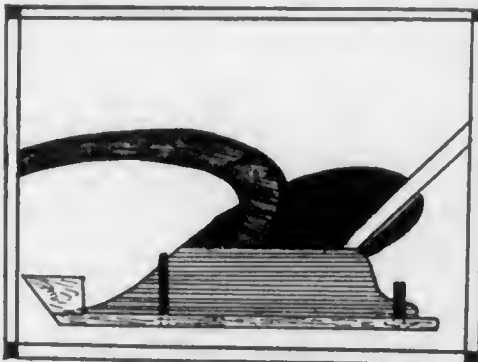
A law passed by the last legislature of New Jersey provides for the appointment of a State Superintendent of Farm Demonstration "who shall devote his entire time to the supervision and furtherance of farm demonstration work in the various counties of the state." The Board of Managers of the New Jersey Experiment Station is to

appoint, whenever it seems necessary, a county superintendent of farm demonstration in each of the counties of the state. The county superintendents are to be under the jurisdiction of the state superintendent.

Associations of farmers or individuals who find that the people of the county want farm demonstration organized under this new law are requested to write to Prof. Alva Agee, of the New Jersey State Experiment Station, New Brunswick, N. J., who has been appointed acting State Superintendent of Farm Demonstration.

FLOW SHOE

The accompanying illustration shows a convenient plow shoe for use in drawing a plow from one field to another. The shoe is merely a strip of wood 1½ by 4½ inches and 24 inches long, with a



CONVENIENT SHOE FOR MOVING PLOW.

projection on the front against which the plow-point rests. It may be shod with a strip of wagon tire, if desired, although this is not essential. The land side is slid upon the shoe, the point extending thru a clevis, as shown, and the rear end of the landside resting between metal strips.

EQUAL RIGHTS

If you are a corporation and are rich, you can do lots of things. If you are simply a poor individual, you had better be careful.

A few years ago a friend of mine hauled a lot of logs by the side of a small stream that flows into Towanda Creek, which is a tributary of the Susquehanna, hoping to be rid of the sawdust by wheeling it into the creek. A friend of his, who had had some experience, "put him wise" to the law in regard to polluting the game streams of the commonwealth. It cost him considerable money to take care of the sawdust.

A few miles farther down the creek is the Greenwood Tannery, owned by the Elk Tanning Company, emptying weekly into the creek thousands of barrels of tan liquor, which effectually kills every live thing in the water. During the warm months of July and August the stench arising from the water is stifling, especially when we have had low water for some time.

Some of our fishermen took the matter up with the proper officials and an action was begun. The tannery company showed its horns and said: "If you think more of a few fish than you do of our tannery, which pays your township \$1,500 weekly, you may proceed. We can move our tannery to a place where people are not so particular. Take your choice." The tannery still stands, the creek stinks and all the fish are dead.

This simply shows the difference between tweedle-dee and tweedle-dum.—L. C. Burroughs, Bradford Co., Pa.

Cotton Crop.—The U. S. Crop Reporting Board reports condition of the growing cotton crop on June 25 as 81.8 percent of normal, as compared with 80.4 a year ago and 80.2, the average condition for the past 10 years on June 25. The area in cotton is reported as about 35,622,000 acres, as compared with 34,766,000 acres last year, an increase of 2.5 percent.

Poultry

EXPERIENCE IN RAISING CHICKENS

A farmer who has a good chicken house, and a picket or wire fence around his garden, and whose grain fields do not approach too near his dwelling, does not need any "chicken run" or "hen park." His chickens will do better, and will be healthier, happier and more profitable if given their liberty and allowed to forage for themselves.

Without visiting the grain fields (which they should not be allowed to do), 50 fowls will obtain more than half their living free of cost to their owner, and the food they thus secure promotes their health and favors egg production. They pick up the scattered seed in the barnyard, feed on weed seed, grass, worms, bugs, grasshoppers and all kinds of insect pests. A writer not long ago said that hens should not be allowed to run at large because they eat worms and bugs, which, he declared, contaminates their eggs. I believe the stomach of a healthy hen is the best judge of the kind of food it requires to perform its proper functions of sustaining the body and promoting egg production; and if hens have a craving appetite for

chickens. Raising chickens, like raising any other live stock, will be more or less



FOUR-DAY'S HARVEST OF WHITE LEGHORN EGGS.
At Hunt Farm, Cumberland Co., N. J.

worms and bugs, it is because their natures require them.

It is surprising how much grass and green stuff hens will eat if they can get it. I had a field of wheat near a neighbor's house, and when the snow went off in the spring it had a fine green top and covered the ground. In a short time his 20 hens had eaten the tops off the plants clear into the ground on more than half an acre, and I supposed it was ruined; but with warm rains and fine growing weather, the roots, which were still alive, put forth new tops, and at harvest no difference could be seen between the place where it had been eaten off and the other parts of the field, the grain being as good there as any where.

Hens kept in confinement, to do their "level best" must be supplied with raw cabbage, or something to supply the place of grass, and will relish boiled potatoes, turnips, beets and parsnips. These vegetables are not only excellent food for hens in addition to corn and wheat, but they are also among the cheapest. Hens kept in confinement, where they can not get grass and bugs, must be supplied in part with a flesh diet like meat scraps and the refuse of butcher shops. Like the human being, they are fond of a change, and appreciate a diversified menu.

All authorities are agreed that wheat and wheat screenings, supplemented with corn and buckwheat, are the best

foods for egg production. Our hens will not eat rye, if they can get anything else, and are not fond of oats, probably on account of the hull; but will eat it when sprouted. Corn is objected to by some feeders on the ground that it is too heating and fattening. I have not found it so. Warmth is a desirable thing to have in cold weather, and there is no danger in fattening hens when in the height of their laying period. We do not feed corn exclusively at any time, but only in connection with other grains. To make cows give milk abundantly necessitates an abundant supply of the materials to extract it from; and to make hens lay well, summer or winter, necessitates a generous food supply; and the greater variety of the things they relish, the better. There is no more danger of getting hens too fat when laying than of getting cows too fat when in the full flow of milk. That reminds me that hens are fond of milk, and it is a valuable food for egg production; but to prevent waste, it should be mixed with wheat bran, middlings, or corn meal. The pans of milk should not be set out for them to help themselves, as is the practice of some feeders, or they will splash it out and tarnish some of their fine feathers. Milk mixed with corn meal makes a good feed for young chickens.

Raising chickens, like raising any other live stock, will be more or less

animal food enough without the beef scrap, or at least some kind of animal food. See that they have plenty of fresh water before them constantly, as it is very necessary. If they are without water two or three hours during a hot day they will drink to excess when the water is finally placed before them. If stale bread can be gotten cheap, a panful softened in water at noon will be beneficial, and they will eat it with a relish.

See that their brooding quarters are warm. The best brooding system I know of for raising young chickens is the coal colony brooders, made from a little coal stove with a hover over it. They brood from 300 to 600 chicks. If more than 300 chicks are to be brooded, a house 12 x 12 feet is needed. A house 8 x 8 feet or 10 x 10 feet is large enough for 300 or less. With these brooders the chicks can be brooded during the whole period.

Get the pullets in their laying houses before they develop their combs. As the comb develops the egg organs develop, and by getting them in the laying house before this time they are not so apt to be put back in laying by a change of quarters. Do not forget to grow green food of some kind for next winter.—B. S. Banks, Pike Co., Pa.

Daisy Bill Vetted.—The bill to make the daisy the state flower has been vetoed, as expected. The governor received a number of protests against the approval of the bill, people claiming that it should be talked over. The idea is to start discussion and let the next general assembly know how the people feel.

REPRESENTATIVES WANTED

We want men, any age, in Pennsylvania, New York, New Jersey, Delaware and Maryland, to represent Pennsylvania Farmer either as traveling or local agents. Men who can give us their entire time will be given a thorough training. If you are not interested but there is a good subscription solicitor in your neighborhood please refer this to him. Address Pennsylvania Farmer, 214 So. 12th St., Philadelphia, Pa.

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Horticulture

PROFIT OR LOSS WITH AN OLD ORCHARD

(Continued from page 1.)

cents. Total, 47 cents per tree. 1912.—Pruning and work for borers, 12 cents. Fertilizer, 12 pounds, same as in 1911, 17 cents. Cutting grass, 3 cents. Spraying, 3 times, 17 cents. Total, 51 cents per tree.

This gives a total for five seasons of \$2.73 per tree, an average of 54 3/5 cents per year. It is best just to say that I have continued the figures on the same basis as in 1908 and 1909, i. e., \$1.50 per day of nine hours, except in spraying, where the cost has been 20 cents per hour for labor and \$1 per day for horse.

Illustration No. 3 shows the condition of bloom in 1913, and speaks for itself as to the vigor of the trees. All grass cut has been left on the ground, and in clearing my garden of vines and waste, that too has been spread to decay.

Years ago, one of our born investigators and experimenters, Dr. Jabez Fisher, of Massachusetts, gave out a fertilizer formula for neglected trees, or those deficient in leaf and new wood development. It was as follows: Nitrate of soda, 700 lbs.; sulfate ammonia, 300 lbs.; sulfate potash, 460 lbs.; acid phosphate, 440 lbs.; kainit, 100 lbs.

This is an unbalanced fertilizer, but for the purpose for which it is intended, I know of nothing so valuable or economical. It has no place under strong, vigorous trees, and must surely work injury by overstimulation of leaf and twig growth. But to put life, activity and energy into old, neglected trees, its equal is not known by the orchardists of Maine.

For a permanent fertilizer to follow, I have been using the following: Nitrate of soda, 400 lbs.; bone meal, fine, 300 lbs.; meat tankage, 300 lbs.; sulfate potash, 300 lbs.; basic slag, 700 lbs. Of this I now apply 12 lbs. to a tree, sowing broadcast when leaves are one-third grown.

Basic slag with me has had a remarkable effect in clearing up my Northern Spys and freeing from the hard woody spots found thru the texture of the apple, and therefore to be treated physiologically. One of the most profitable steps taken was that of scraping the trunks and large branches in 1910, being careful not to disturb the live bark, and then scrubbing with a wash composed of fresh lime, 1/2 barrel, carefully slaked; arlies, 1 bushel; caustic potash, 1 can, and using enough Portland cement to deaden the white of the wash. This makes a full barrel of wash, which should be worked into the trunks and branches liberally.

The trees are gone over for borers in June and again in August. In the five years I have lost two of these old trees, both Baldwins, on the lower levels of the field, and doubtless killed by freezing during the extremely cold winter of 1911 and 1912.

I have not here included taxes, interest, etc., simply the items of pruning, spraying, taking care of borers, and fertilizing, these being the ones the average farmer faces as he contemplates his old trees, many of them practically worthless as they are today. I want to enter a plea for these trees, so often sacrificed to make room for a new orchard. Nature is exacting, but she is also wonderfully responsive, and if we will only do our part, only do something, returns will be certain and permanent. All thru the years there has been wanton neglect of our or-

chards. All over the East you will find this, and with the evidence of five years' work before me, with liberal harvests yearly, and a generous set today, I am forced to the conclusion that, first of all, we must give better attention to our old orchards; for the man who neglects here will surely fail when he sets his new lot of trees.

It is a very simple story I have told, one which can be duplicated by any farmer. There is no call for credit for big results at small cost—for, given a sharp saw and trimmer, any good workman will go over his trees as rapidly. Feeding as I have and pruning, there has resulted a natural tendency for the trees to shoot upward, and this has been checked by going over them in midwinter and just tipping every upright twig. If I could, I would in every case cut to a bud to control next year's growth, but thus far this has not seemed practical. Given a series of years, with the trees in grass, and 55 to 60 cents per tree yearly, will cover the expenses of pruning, spraying, fertilizing, digging borers and cutting the grass twice.

If apples respire, if trees breathe, we



BLOOM OF 1913 ON TREES CONDENSED IN 1908.

have not to go very far afield to believe that the thoughtful tree lover may find companionship in his orchard, and be enriched by contact with God thru living tissues forcing on every twig, in every leaf and certainly in the luscious fruit. My trees are my friends, and in the cool of the day they invite me to linger among them and listen to their story as the sap forces itself up from the roots out into the branches and leaf and bud. The cost of reclaiming an old orchard is not great, while the returns are sure to be ample. There's no tree owner so poor that he can not give every tree a fair chance; no one so rich that he can afford to neglect.

LATE SUMMER SETTING OF STRAWBERRIES

Spring setting of strawberry plants, with its incumbent loss of one year's crop from the ground so occupied, is an unnecessary land and labor waste. Late-summer set plants, following a crop of peas, early potatoes, lettuce, spinach, etc., if properly cared for, will produce a good crop of berries next June and be out of the way in time for another crop, such as English turnip, winter spinach or kale. This fact alone makes late summer setting advisable for the small farmer or suburbanite; for when one's gardening area is small the advantage of not failing to obtain a crop from all the ground every year is obvious.

It is over fifteen years since the writer began growing this fruit, and he has done considerable experimenting with methods and means, and consider-

able observing of other growers' operations. From each year's experience and experiments some point has been gleaned that has helped him to make fewer mistakes the succeeding years. First of these is the advantage of the late-summer setting over spring setting, and next in importance is the advisability of the quick rotation.

I have come to prefer to set a new strawberry patch every year, to fruit a patch but one year. To set a new patch involves less labor and expense than to keep the old bed properly cleared of weeds and grass and diseased plants. By allowing the plants to fruit but one year and then turning them under, fungous diseases and insect pests are escaped to a large degree, and the fruit is generally enough better to warrant the extra labor and expense. I have likewise found the one year beds more productive.

After trying nearly all methods of strawberry growing, and setting plants in early and late spring, late summer and fall, I have finally adopted the late-summer setting and the wide matted row system of growing as the most

penetrate deeper, is labor and money well spent. Especially is this true of strawberries on light porous soils.

I prefer to run the rows three and one-half feet apart, with plants two feet apart in row, set to row both ways. This is the most convenient way if one is crowded for space, as it permits of all the cultivating being done with horse cultivator. But where one's strawberry patch is of limited kitchen-garden size, the rows may be run but two feet apart, with plants as close as 15 inches in the rows.

When the setting out is to commence—about August 1st, in this latitude, 42 degrees 30 minutes—the young, vigorous plants showing no sign of wilt, are taken up with a common garden trowel and placed on a shallow flat, carried (or carted) to the prepared field, and set out the same day. If no rain comes or seems imminent when the row field is all ready, the setting out is then done by stages. A few flats full of plants are taken from the old patch late each afternoon, carried to the barn and given a good sprinkling and then set after sundown. However, with a sizable patch to set it is worth while to delay a few days for a rainy or, at least, a cloudy day, provided there is any indication of getting such an one soon. It is best not to delay over four days, with a week as the limit.

The plants are set out the same as in spring setting, except that they may require heavier watering, and shading from the scorching sun. I am never much troubled with grass and weeds. If the first two weeks after setting are showerless ones (August generally is in my section), and the patch is not so large as to make it impracticable, it is well to water them thoroughly a time or two, the water being applied after sundown. However, with a considerable area, all this is best accomplished by applying some light mulch along rows immediately after the setting out. This shades the plants from the direct rays of the sun and conserves the moisture that has been applied in setting out.

In using the wider row, the cultivator is run both ways two or three times, after which the runners are turned along the rows, making the row of plants about a foot wider, and thus securing by fall a thick, matted row, with an open walk-way in each side. This is most appreciated at picking time. If the narrow row is adopted, it is best to turn in only a part of the runners. The matted row, I find, survives open winter better, i. e., winters of little snow, with the ground freezing and thawing intermittently. The close row patches are more easily cultivated with a wheel hoe, but if one hasn't this tool a steel garden rake is practical in small patches. Rake up the surface every week or 10 days to make a dust mulch and keep down weeds and grass. In my experience the old bed is seldom worth the labor of cleaning out, and it is better to plow under and use the ground for turnips, winter spinach or rye, as best suits the grower's purpose. Especially is this so with the suburbanite who wishes berries for home use, as two or three rows of plants across a 100-foot garden will grow plenty of fruit for an ordinary sized family, if the soil has been properly prepared and the plants properly cared for.

Thruout June the old plants send out runners producing many young plants. These vigorous young plants are the ones used for the new bed. About three days before I am ready to set out the new patch, I go over the old one, and sever a quantity of these new plants from the parent stock. The object in severing the runners a few days before transplanting is to ascertain if the young plant has a good root system. If it has it will remain green and fresh; if it has not, it will so miss the nourishment from the parent stock, received via the runner, as to be wilted noticeably by the third day. Of course, none of these wilted plants are transplanted, as the old patch always supplies more than enough of the vigorous, well-rooted plants to set out the new patch.

The prospective strawberry patch, usually following peas, early potatoes or late spinach, is well plowed, stable manure at the rate of 10 two-horse loads per acre is applied, and the soil made fine for six to eight inches in depth. The importance of thorough soil preparation can not be too much emphasized. The strawberry naturally has but a limited root system, and any means that will induce the fibers to

penetrate deeper, is labor and money well spent. Especially is this true of strawberries on light porous soils.

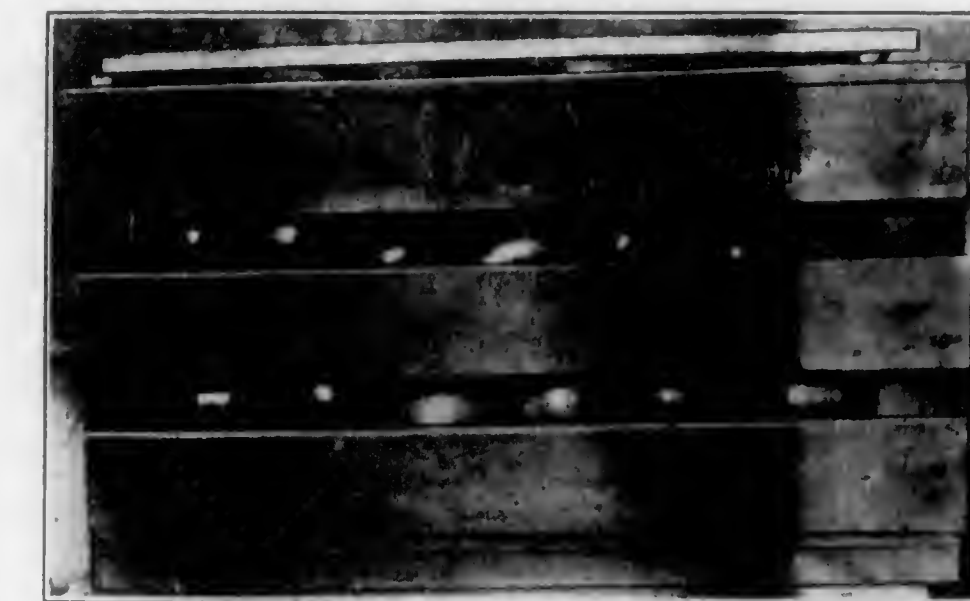
Whichever method, wide or narrow rows, is used in latitudes north of 38

July 26, 1913.

degrees, the plants should be protected thru the winter with a mulch of some sort. In the spring remove the bulk of the mulch with a light wooden garden rake, and clean out between the narrow rows with a steel garden rake. If this is repeated a couple of times no further cultivation need be given the patch in the spring. The same process is followed in the large wide-row patches, except that a spike-tooth horse cultivator is substituted for the steel garden rake.

I would urge anyone who is about to start a bed to give particular attention to the quality of the berry, when selecting his varieties. There is a great difference in flavor among strawberries as there is between the luscious Northern Spy apple and the pithy Ben Davis. For many years there has been a straining after size on the part of commercial growers, with the consequence that the nurseries have developed and introduced many large-fruited varieties of inferior flavor. Happily, however, this craze for size, regardless of flavor, has reached its height, and the reaction is setting in and is already being felt by the commercial growers.

The consumers are recognizing that not only are the medium-sized strawberries usually of better flavor than the very



TOMATOES PROPERLY PACKED FOR MARKET.

large ones, but also that the greatest profits accrue from them. Most consumers now choose neither the largest nor the smallest, but the medium-sized berries of such a size as to leave little air space in a quart basket, and yet not so small as to make the work of hulling laborious.

Horticultural experts claim that the strawberry is more susceptible to improvement than any other fruit. My own experience and observations do not quite coincide with that claim. If such is the case, I would suggest that some of the same skill that has so increased the size of the strawberry might well be directed to restoring some of the flavor of the wild berry to its modern descendant. It requires a lively imagination to detect in some of the largest cultivated berries that distinctive strawberry taste belonging to its tiny sister of the fields, which has been practically lost in the pursuit of size. The oft-heard statement that the good quality berries can not be grown at a profit, can hardly be substantiated. There is good profit in growing the best flavored varieties to sell on the open market, as some of us in this section are doing it can demonstrate.—Clarke Westford, Schenectady Co., N. Y.

ORCHARD INSECTS

What the Inspectors May Find

That we have orchard insects in surprising numbers, the field work of the

orchard inspectors sent out thru the State of Pennsylvania is proving. This great work of inspection and county

demonstrations should have a twofold value; that of disclosing to the state authorities an approximate estimate of existing conditions, and the greater work of revealing to the owners of fruit trees some of their greatest enemies and how to ward away or overcome them. The former will surely be realized to its full extent; the latter will give returns only in proportion to the attention given by the owner of the trees inspected. The owner can gain many points of real worth or he can pass the matter by as of little consequence—and thereby render his judgment, so far as his own work goes, entirely correct. This is one of the instances in which we get little more out of a thing than we put into it.

We may read descriptions of certain things and yet feel a bit doubtful, in many instances, when we come to identify them. But let the practical entomologist come into our own orchards and commence his investigation, and the matter assumes a new interest. We have seen a scale plentiful enough on the apple trees. We have read of the San Jose scale—and we may wonder if this pest is lurking among our own trees. Happy we are on the assurance that it is only the oyster shell scale, a pest of secondary importance. Yet



with this comes the statement that the menace in so many places is thoroughly established not many miles away; and that some mischievous bird is liable any day to bring it to our door. It is consequently time to know how to fight so small as to make the work of hulling laborious.

Then there are other pests unsuspected. We have seen the nuthatch and woodpecker creeping about the tree trunks, and know in a general way that they were hunting for insects; but the force of their work we have never realized. Scrape a bit of bark from any middle-aged apple tree in the ordinary orchard, and you will find traces of insect life. The scurfy and Forbes scales are both common, and tho it may not be suspected, the trained eye will quickly point out these insects, tell you of the various changes they undergo, how to look for them, and the best way to keep them in subjection. Even a small lens will convince you that you have a zoological garden on every tree, and that you need birds and spraying material in abundance to cope with the enemy.

One of the greatest surprises may be in the peach orchard, when the orchardist steps up and commences to dig with his knife into a cavity from which fresh gum exudes. He does not go very far until he uncovers a larve which may be nearly an inch long. No wonder your trees are not doing well; and yet you supposed the gummy places were caused by a hailstorm or some external injury to the tree. These, the specialist explains, will cause the gum to form, but the sawdust-like substance

mingled with it is a sure sign that the borer is at work. You find even more of the gummy excretion near the roots of a tree, the trunk and branches of which are not yet infested; and as you dig out the culprits, the mental observation is that finding out how to get rid of this pest alone well repaid the time you spent with the man sent out by the state, even tho you may have felt at first a bit of indignation at his seemingly undue inquisitiveness.

As he passes from tree to tree, you may yourself, if you want to get all the information possible, call attention to the something wrong which you have observed here and there; but be sure that he will notice much which has escaped your observation. It is his business to watch for things. He knows in a general way of several things which he expects to find; and he is also constantly looking out for indications of the worst pests in new territory.

Several curled and blackened leaves on the young twigs of the cherry tree, almost as if scorched by a fire, may attract your attention momentarily. You pause to examine one after another, and find nothing there; and so you pass on, concluding that no bug or worm is responsible. But the orchardist is not so easily satisfied, opening one after another, and just as he is commenting on the probable fact that some insect consumer has preceded him, the search is rewarded by a black mass which even a small lens reveals as a colony of hundreds of cherry aphids. The apple aphid is similar in habits and numbers, but green in color instead of black.

Some of the leaves on your pear trees may be dying, and as you look in vain for an insect, the conclusion comes, if you have sprayed, that the liquid has been applied too strong. Now the specialist can tell you at a glance that it is a blight, the remedy for which has not yet been found. But when you suggest cutting down the tree, he advises only a rigid pruning, thereby prolonging its usefulness some years; tho unless a remedy be found in the mean time, the disease must eventually prove fatal. Yet right here is an illustration of the fact that the work of the inspector is not designed to be destructive, but upbuilding in its nature. The fear that you may have some plant or insect pests should not render the visit unwelcome. The mission is not to condemn, but to uplift the cause of the fruit grower.

If the trees need doctoring, he is ready to prescribe and advise. But if you turn a deaf ear to this, he is very apt to confine his work to observations only; he makes these as rapidly as possible, and hustles on to an orchard where the owner is ready to learn. His aim is to disseminate knowledge, but not to crowd it upon anyone. If he has not already visited you, and you live in Pennsylvania, he will in all probability call before the end of the season. He may come any day. Look over your own grounds, and think out some of the problems they present; and then be ready with your questions and with your notebook.—Bessie L. Putnam, Crawford Co., Pa.

Does the Farmer Get Pure Seeds? is the title of an instructive and enlightening bulletin, No. 362, from the Cornell Station, Geneva, N. Y.

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By W. C. O'KANE

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The Dairy

TUBERCULOSIS AND HOW IT SPREADS

Postmortem Appearances

When the carcass of a cow affected with tuberculosis is opened the disease may be found in any part of the body. Lumps (tubercles) may be present in the substance of an organ such as the lung or the liver, or they may be growing on the surface. These lumps may be so small as to be scarcely noticeable, or they may be as large as the closed fist or even larger. If one of the lumps is cut open, the inside is yellowish and gritty on the knife like sand, or else is of a cheesy nature, soft and creamy, or hard and dry.

The lungs is the favorite place for tubercles, and should always be examined. Lymph glands are often the seat of tuberculous changes. When healthy a lymph gland is a little round body not much larger than a good-sized bean, the largest only the size of one's thumb. They are found all thru the body, and when healthy are so small as to attract very little attention. Tuberculosis may cause them to grow to an enormous size, sometimes as large as a child's head. In this condition they are similar to the tuberculous lumps already described. Those lying between the lungs and in the throat are the most frequently affected.

Tuberculosis may be found in any part of the body—glands, lungs, liver, bowels, kidneys, womb, udder, and even the bones. The muscles and the skin are seldom affected. When tuberculous nodules in the lungs break down, the material of which they are composed, and which contains millions of tuberculous germs, is coughed up. Some of the germs are sprayed from the mouth and others are swallowed and discharged in the dung.

One reason why tuberculosis is so common among persons and cattle is that many persons and cattle pass tuberculous germs from their bodies before anyone knows or suspects that they have tuberculosis and can get the disease to others. A tuberculous udder may contain only a single small swelling thru which the milk becomes dangerously infected with tuberculosis germs.

The germ of the disease, the tubercle bacillus, is a tiny, slender rod-shaped body. Several thousands of them placed end to end would be needed to measure an inch, so that they are quite invisible to the naked eye. A powerful microscope is needed to see them.

The Way Tuberculosis Grows in the Body

Once the bacillus has gained lodgment inside the body of an animal, it may begin to grow and multiply. It gets longer and when full grown divides crosswise, making two out of one. Each of these goes thru the same process, the two becomes four, the four eight, the eight sixteen, and so on indefinitely.

The Body Defense Against Tuberculosis

This multiplication takes place quite rapidly when conditions are favorable, only a few hours being required for the birth of each generation. Nature, however, does not permit this process to continue long without offering some resistance. The forces of the body are roused to action and a battle begins between the tissues of the body and the army of the invaders.

The first line of defense is composed of the white cells of the blood, which hurry to the scene of action and en-

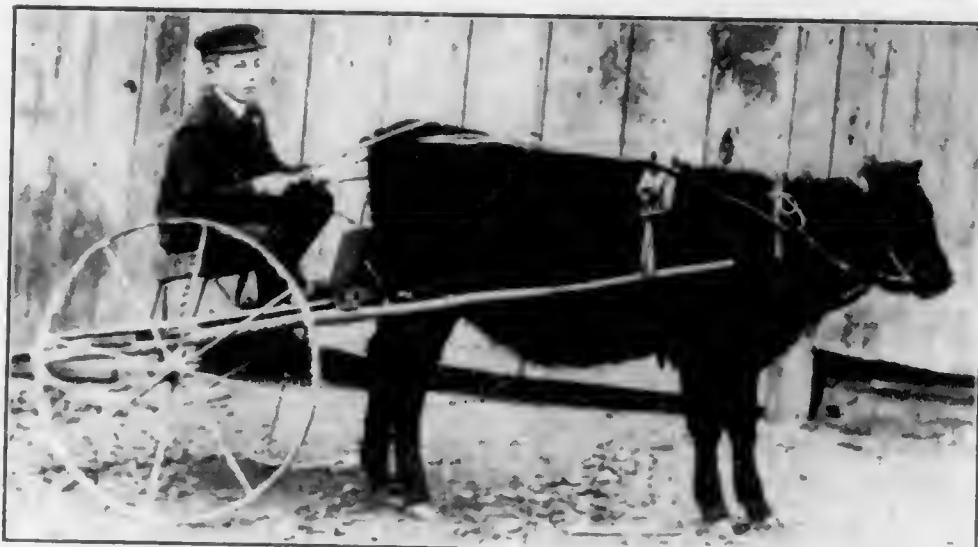
deavor to destroy the invaders by eating them up. Sometimes they are successful and the bacilli are destroyed, the infection checked. Often they fail in their object and are themselves destroyed and the multiplication of the germs continues.

The second line of defense is formed by the cells of the tissue invaded by the germs. These cells arrange themselves in a circle around the germs and try to form a living wall between them and the rest of the body. This barrier gradually becomes thicker and thicker and forms a little hard lump or tubercle, from which the disease gets its name. If this wall is complete and successfully imprisons the bacilli, these gradually die and the disease in that particular spot is arrested.

The Triumph of the Disease

Frequently, however, both these safeguards are overcome. The germs break thru the barriers and are carried in the blood stream or lymph channels to other parts of the body. New points of attack are selected, and the process begins again but with less chance on the part of the animal. As the tubercles increase in number the power of the body to grapple with them becomes less, and gradually the animal falls a prey to the disease.

The tubercle bacillus does not usually multiply outside the body of an animal. It can live for a long time in favorable surroundings, such as dark



"WHERE ARE THOSE GOOD ROADS I HEAR SO MUCH ABOUT."

and dirty stables. Sunlight soon destroys it. Freezing does not hurt it, but it can only stand a moderate amount of heat. Exposure of 149 degrees Fahr. for 20 minutes kills it. Protected by a layer of dry mucus, such as is coughed up from the lungs, it withstands drying, light and ordinary disinfectants, but it readily killed by steam or boiling water.

How the Disease Spreads

Sooner or later the tuberculous cow begins to give off the germs of the disease. The germs escape by the mouth and nose, the bowels, in the milk, and in discharges from the genital organs. When the germs are being driven off in any one of these ways, the disease is known as open tuberculosis.

Germs discharged from the mouth and nose are coughed up from the lungs and are sprayed over the food in front of the cow or are carried in the air for a time until they fall to the ground. Cows in adjoining stalls may take in these germs in the air they breathe or in the food they eat and so contract the disease.

How Hogs Contract Tuberculosis

Germs discharged from the bowels are mixed with manure, and may infect cattle and hogs that are allowed to pick over the dung heap. The practice of having hogs and cattle together in the same yard is sure to result in the infection of the hogs if any of the cattle are affected. The germs in the manure come from matter that is coughed up and swallowed, and in some cases from tuberculosis in the bowels themselves. Manure containing tu-

bercle germs may easily infect the milk. Particles of dried manure may fall into the milk pail from the skin of a dirty cow or be accidentally flicked off from the tail and fall into the milk. Straining the milk afterwards only removes the larger particles. The smaller ones, including the germs remain in the milk.

When the udder is tuberculous the milk contains the germs in vast numbers. Such milk may look and taste perfectly good, but readily transmits the disease to young animals. It is very dangerous to children. Hogs and calves are very readily infected by it. —Dr. Floyd W. Robinson.

BUTTER MAKING ON THE FARM

The milk from almost two-thirds of the cows in the United States is used for the production of butter. Much of this butter is manufactured in creameries, but a great deal is made on the farm; and the farmer who makes good, clean butter always finds a market for his product, usually at a figure a couple of cents in advance of the regular market price. If good butter is in demand, why not make good butter? In letting an inferior grade go to market you not only cheat yourself out of extra profits but in many cases bring the wrath of a good customer down upon the farm dairy for all time.

In making good farm butter the qual-

ity must be our aim from the time we sit down to milk until we have the butter packed, ready for market. We can not make an extra quality product from cream which has had no special care; we must guard the "causes" or the "effects" will be disastrous.

We will consider the conditions under which the work is done to be those found on the average dairy farm, where the cows are healthy and have good care, feed and stables; and a milk house is provided in which to keep the cream until ready to make the butter. In the first place, the milk should be at a temperature of about 90 degrees Fahrenheit when separated, as that is about its temperature when drawn from the cow and at which the separation is easiest and most complete. If you are not going to churn right away, run the temperature of the cream down to about 40 to 50 degrees Fahrenheit, at which temperature germs will not develop readily.

Never put the cream from the separator directly into older cream without cooling, as by so doing we bring the temperature of the whole crop up to a temperature where undesirable germs will grow, and when the cream is cooled these germs remain inactive, ready to grow as soon as opportunity presents itself. Therefore, always cool the cream to about 50 degrees Fahrenheit before mixing.

About 20 or 24 hours before churning, the temperature should be raised to 80 degrees Fahrenheit, and then reduced to about 70 degrees Fahrenheit, at which temperature the cream sours well and thickens to a fine curd. When the cream has a sour yet pleasant taste and a good body, it is ready to churn. Strain the cream into the churn; this will break up the body of the cream and remove any dirt which may have found its way in. With the body of the cream broken, the churning will be both complete and easy.

The churn should be cleaned thoroughly after churning previously, so just before churning all that is necessary will be to scald it out and cool, after which pour the cream in and put in the amount of coloring matter which will give the desired color to the product. Various conditions govern the amount of color to be added; the breed of cow, feed and season and market demand. One ounce to 50 pounds of butter is a good rule to follow. The temperature of the cream at which to churn should be 58 to 60 degrees Fahrenheit. If higher the butter will be soft and have a greasy appearance, while if lower the churning will be hard and often incomplete and the butter will not hold much moisture, in that way reducing the overrun.

In very cold weather, or when using milk from cows well along in lactation period or fed on dry feed, we can safely churn at 65 degrees Fahrenheit; and in the warm weather or where the cows are fresh and fed green feed we may go down to 55 degrees Fahrenheit; but these are conditions the man on the job must look into for himself. A few of these conditions explained might be of some assistance to a person just starting in business:

1. In the spring and summer, when feed is sweet and green and fats are softer, then the temperature at which to churn may be lower than in winter, when feed is dry and the fats hard. In speaking of food it might be well to state that dry food, as hay or cottonseed products, make a butter tallowy and crumbly in appearance, while linseed and all succulent feeds produce a butter fine in texture with a comparatively low melting point.

2. Some animals give soft fats naturally. Jerseys have the reputation of giving the softest of any breed.

3. When a cow is fresh, the fat globules are larger and softer than at the close of the lactation period. All of these conditions must be considered when deciding the temperature at which to churn.

The best way to discover the proper temperature would be to take the temperature at different times and then stick to the one at which the best results were obtained. The butter should appear in the form of flakes, rather than small round particles which are hard to work. The flaky butter holds more moisture than the other; a difference of as much as 3 percent being found in some cases and as the law allows us to incorporate 16 percent, we should get it all into the butter if possible.

To insure perfect churning, never fill the churn over half full, and the best results are obtained when the churn is less than one-third full. If the agitation is not complete, we do not get all the butter. If the churn is too full or the cream very rich, that is, more than 4 percent fat, the agitation will not be complete. The nature of agitation depends on the style of the churn used. There are various styles. Make your own selection, but be sure to follow directions which come with the churn if you want to secure the best results possible with that style of churn. If the churn is operated slower than directed, the butter will not come as quickly as desired and may not all come in the end; and if the churn is turned too rapidly, the fat will cling to the sides of the churn and some of the butter will be lost.

There are several methods of telling when the churning is complete, but the best and simplest way is to note the size of the flaky granules, which should be about the size of a kernel of wheat. Smaller than a kernel of wheat the granules are easily lost in the buttermilk, while larger ones are harder to work and wash. When the churning has been completed, draw off the buttermilk, running it thru a strainer which catches all particles of butter going out into the buttermilk. Put this butter, caught in the strainer, back into the churn and add about the same amount of water as you had cream, and about 8 degrees Fahrenheit colder than the buttermilk just drawn.

The object of washing the butter is to remove the buttermilk, which has a tendency, if left in the butter, to cause it to become mottled and be food for undesirable germs. Washing the butter improves its flavor and keeping qualities. Be sure to have pure water, for impure water might have more undesirable effects than the buttermilk.

When the butter has been washed, draw off the wash water and remove the butter to the working board, which has just been scalded and cooled off. Clean the churn thoroughly and leave open to air out. Put the salt on the butter before working it; in this way the salt is worked in, while the wash water is being worked out. Salting the butter not only gives it a desirable flavor but also increases the keeping qualities and assists in removing the buttermilk. Different markets demand different degrees of saltiness, but two ounces of salt to each three pounds of butter is usually demanded. Salt assists in removing the buttermilk by precipitating the curd and the whey will run off the working board, leaving the butter without any drops of milk showing on its surface. Always use the purest salt obtainable.

The objects of working the butter are: First, to distribute the salt; second, to bring the butter into compact form; and lastly, to work out any excess buttermilk or water. The first object has been explained. The second is very plain, as when the butter was taken from the churn it was in the form of granules and on the market it must be in solid form, which comes about thru massing the various granules together. As the dairy law allows only 16 percent moisture, any additional moisture must be worked out while salting and massing the granules.

The last phase of the work is the packing and marketing the product. The majority of farm dairymen have regular customers. In that case, the earthen jar is probably the best carrier, but in the open market the butter which is neatly packed attracts the most attention. When the butter has been worked to the desired stage, a pound print is best to print it. There are two types of these, one operated by hand and the other has a lever which hastens the work and for a large dairy would be preferable. Both types have loose bottoms; that is, the bottom can be removed and the print of butter will come out.

When the butter is printed it should be wrapped in parchment paper, which is air and moisture proof and preserves the butter to a great extent. If possible, it would be advisable to have a farm name copyrighted and stamped on the parchment; thus advertising the farm and attracting the attention of the buyers.—Carlton E. Nash, Centre Co., Pa.

PROTEIN IN ALFALFA

Of all crops, alfalfa stands at the head of the list, alphabetically and otherwise. In the matter of digestible protein, alfalfa leads with 12.3 percent,

surpassing even wheat bran by 1.1 percent. This chart presents some startling disclosures as to the great value of alfalfa.—I. H. C. Extension Department.

ALFALFA RICH IN DIGESTIBLE PROTEIN	
	%
ALFALFA	12.3
WHEAT BRAN	11.2
OATS	9.5
CORN	7.8
CLOVER	7.5
TIMOTHY	2.8
CORN FODDER	2.5
CORN SILAGE	1.3
OAT STRAW	1.2
WHEAT STRAW	.4

MARKETING DAIRY PRODUCTS

The problem of the dairy farmer is mainly that of distribution of products. It is true that we shall never go past the time when the importance of the good cow and of good feeding can be omitted, but the methods and the cost of taking the product from the farm and putting it in the possession of the consumer of the product is the one that is farthest from solution and which needs the most careful thought and study.

No matter what political party may be in power, dairy products were bound to be admitted with little or no duty. The cities have been demanding it so long that it had to come soon. It was as in the times of the late sixties, when farm products were at high prices and the cities demanded the opening up of the West so that products might be cheapened. It was sadly overdone in those days, and we have not gotten over the effects of those years when farming could not be made to pay, because of the overproduction of farm products. There seems to be little danger of a complete reproduction of those times, but there would have been less chance for the present demand being made had there been better facilities for supply from farm to consumer. It is too late to prevent tariff action now, but the problem of distribution is none the less important.

Co-operation is undoubtedly the correct method of procedure, but the usual co-operative creamery is hardly successful. I am not saying that they always fail, but they fail so often that they are not to be recommended for all places as at present managed. Even when they do succeed they are called successful when they do as well as the creameries operated by the big concerns. They ought to do better, and will when they are organized and managed rightly. I do not suppose the man is living who can say off hand how the right result is to be accomplished. It is easier to say a few things regarding how they ought to be run. For example, it is not right for a few to do all the boosting, nor is it right for a number to stand around and talk and then when the time comes to deliver milk to pull out and leave a few others to take care of the business and the debts. That is not the way success has been attained in Denmark by co-operation.—H. H. Lyon, Chenango Co., N. Y.

THE DAIRY SHOW

The farmer is in the strong glare of public aid and counsel at the present moment for sure, and, if he survives the propagandist, he will have smooth sailing into the harbor of wealth, because there is not a shadow of doubt of the sincerity of all that is being hurled at him. Soil fertility, alfalfa, crop rotation and all and several of

the present day preachments are for his good, and stock raising for a home market for his products is not the least of the most valuable teachings he is receiving; in fact, we may say it is the most opportune at the moment, as live stock of every description is selling at high figures and must continue for a decade or more because at the ratio of increase of population at this date, live stock will be the most profitable output of the American farm for many years, for its own direct profit and its immense value as an adjunct to the farm, enabling the farmer to return to the soil a proper payment for value received.

The dairy cow is beyond doubt the greatest value consideration for any farm, and the week's college in dairying at the great National Dairy Show in Chicago, each year, carries lessons that no farmer can afford to overlook. This year will be held the eighth annual show of this association, and it is intended to reorganize the entire dairy industry at this show, October 23d to November 1st. While the cows have to be milked twice a day, some representative farmer from every section should attend the meetings and see this show.

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Live Stock

FORAGE CROPS FOR SWINE

In June, 1912, the Ohio Agricultural Experiment Station published a bulletin dealing upon the practical phases of certain forage crops as supplementing corn in the ration of swine. Most grain and succulent feeds contain considerable quantities of mineral ingredients, and also show a large excess of bases over acids. Not only this, but in recent years the high cost of grain feeds has made it seem desirable to supplement these feeds with others more economical, and from both points of view forage crops are indicated.

Showing Value of Skim-Milk and Clover

In the first experiment the following comparisons of feeds were made:

1st. Corn and skim-milk. 2d. Corn and green soy beans. 3d. Corn alone. 4th. Corn on mixed pasture. 5th. Corn on clover pasture.

The corn and skim-milk made the most rapid gains. Corn and soy beans, and corn on mixed pasture made equal gains, but require more corn on the mixed pasture than with the soy beans. The corn on clover pasture indicated

corn and tankage than with the lot fed corn alone, but the rate of gain and the amount of feed required for a given gain did not show that the corn and tankage mixture was much more efficient than was corn alone.

In experiment number four, two lots were experimented with. One lot was fed a grain ration of corn, nine parts, and tankage, one part; the other lot was fed 10 parts corn and one part tankage. In addition to this, both lots were allowed to forage on mixture pastures, which pasture, however, was not very abundant and was kept grazed down very closely. Both lots made very satisfactory gains. "The difference in the rate of gains and in the amount of concentrates required for a given gain by the two lots was small. The lot fed the larger proportion of tankage made slightly larger gains and required slightly less feed per 100 pounds gain than did the lot fed the ration consisting of corn, 9 parts; tankage, one part. Altho the ration consisting of corn, nine parts, tankage, one part, was slightly more efficient in producing gains in this test than the one carrying the smaller proportion of tankage, the difference shown is small, and these results should be verified by more work along this line before they are accepted as conclusive evidence of

I had taken great pains and felt highly elated at what appeared to be a grand success. The colt walked awkwardly, but it walked on the bottoms of its feet, and seemed pleased in being able to do so. A friend came to visit me and I told him to see the colt. I expected praise and encouragement. He shook his head, saying: "You might as well shoot it, first as last. My father had one in a similar condition and after spending much time, and doing all he could for it, had to kill it."

After keeping the boot legs on three or four days, I took them off, and was troubled to find that where the joints had been pricked by the stubble there were running sores that had maturated. I washed the ankles with warm soap suds, put clean lining into the boots, and put them on again. This I did daily, and the sores got better, but there was no improvement in the joints. I then gave the colt to a neighbor who had taken great interest in the case, and was considerable of a horse doctor. He took the colt home, threw away the boot legs and made wooden ones by hollowing out two pieces of wood to fit each leg, and bound them on. I think his wooden boots were better than mine, but they did no good, and after persevering for several weeks without improvement, he gave up and killed the colt. There seems to be little chance for cure in such cases.—J. W. Ingham, Bradford Co., Pa.

CASTRATING RUPTURED PIGS

To castrate a ruptured pig, cut carefully until the last membrane next to the testicle is reached. Grasp the testicle, inclosed in this membrane, and pull it out as far as seems possible; have an attendant hold the pig by the hind legs, head downwards. As far back on the cord as possible, thrust a needle and thread, or cord, directly thru the middle, and tie it on each side, making a "figure eight." The cord should then be cut off outside of the knot. If done rightly, a small swelling may appear for a few days only, then the pig will show thoro recovery and can not be distinguished from the other pigs in the herd.—Geo. P. Williams, Delaware Co., Ohio.

HOTHOUSE LAMBS

The production of early or hothouse lambs gives promise of unusual profits to northern Jersey farmers. The New York and Philadelphia markets are willing to take all such products at the highest possible price. There is a brisk demand thruout the year for mutton and lamb products. North Jersey offers unusual advantages for sheep raising. There is a vast amount of almost waste land that can be purchased at a reasonable price, and the pastures for the most part are high and dry, thus free from parasites. There is an abundance of hilly grass land, too rough and stony to cultivate, that will grow forage for the flock. The general browsing tendencies of the sheep increase their value as foragers and as a means of increasing fertility, destroy-

ing weeds and utilizing coarse and rough fodders. Considering the money invested, and the inexpensive labor required properly to provide for and handle a flock of sheep, the industry is both profitable and practical.—D. T. H.

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Large Berkshire Swine, Registered High grade. Price reasonable. Write HOME FARM, Center Valley, Pa.

Large Berkshire fall pigs, either sex, also booklets for early spring pigs, reasonable prices. FRANK BLUM, Rt. 2, New Washington, Ohio.

Choice English Berkshire Pigs for sale. Hottest sex, from prize winning stock. Also one service boar. J. B. WILLIAMS, Rt. 1, Hornell, N. Y.

Duroc Jerseys—Champion herd at W. Va. Pa. N. J. State fairs, 1912. Booklet orders for spring pigs. R. B. Martin, Booneville, W. Va.

MULEFOOT HOGS

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ALFALEA LODGE YORKSHIRES, short nose types. Trize unrelated. Special sale. Boat pigs ten dollars. John G. Curtis, Rochester, N. Y.

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Poland China Spring Pigs—Good ones. \$5 each. If ordered between now and Aug. 10. Out of litter of 15. R. F. Moore, Jr., East Pottsville, Ohio.

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Grange

EDITOR'S NOTES AND COMMENTS

Today

In its brief course lie all the verities and realities of your existence; The Bliss of growth, the Glory of Action, the splendor of Beauty.

For yesterday is always a dream and tomorrow is only a vision;

But today well lived makes every yesterday a dream of Happiness, and every tomorrow a vision of Hope. Look well, therefore, to this Day. Such is the Salutation of the Dawn.

—From the Sanskrit.

I have heard that there is inscribed over one of the gates at Eaton College this inscription: "Do Ye the Next Thing." Every time a young man enters the gate this injunction meets his eye. What a rule of action this is! Duties are always crowding upon us, and there is at the same time a disposition to put off till another time the thing we feel is our duty to do. One of the many pressing duties is the logical "next thing." Do it now. Not only because of its necessity and importance, but for the sense of satisfaction it brings in the consciousness of duty done.

If we examine very closely we find very few of the "next things" are purely selfish. It is usually something for the brotherhood; something that is of benefit to humanity at large and does not stop at self or our class. The larger self is found in doing "the next thing." It is only when we come together in the capacity of workers for mutual helpfulness that we really become acquainted with the needs and opportunities for social service. The grange has done more to break up the isolation and its consequent selfishness among farmers than any other agency. It is there that many have learned that the "next thing" was something beyond the line fences of the farm.—R. P. Kester.

THOUGHTS ON RURAL WELFARE

Professor Burham, teacher of agriculture in the State Normal School, Lansing, Mich., recently gave four lectures on Rural Welfare at a sort of Chautauqua gathering at George School, Bucks County, Pa. His first lecture was an outline of the situation, and in it he gave suggestions of ways by which we may come at the work intelligently. He said that before any really constructive work can be done there must be a knowledge of the situation existing in the community, as well as a knowledge of the needs.

The physical elements, the human element and the institutional element of every community must be made subject of study. Physical elements include soil, climate, topography, roads, distance from markets, etc. The human element is the people living in the community, their character, habits, education, morals and all that goes to make the personality of the people, individually and collectively.

The institutional element is the schools, churches, orders, social functions, etc. These three elements should receive careful attention from anyone who hopes to do the greatest good in the effort to improve the rural situation. There are no legal boundary lines to a community, yet the country is somehow naturally divided by invisible lines into communities, each one, in some ways, different from every other community. By this it is evident that

there can be no general and wholesale cataloging of rural needs.

Dr. Burham in his lecture remarked that rural people needed first the "group habit"; something similar to what the writer has frequently referred to in these columns as the community spirit. We also need increased appreciation; to be better able to see opportunities and better methods as well as to appreciate the advantages of our calling. While the farmer must learn how to produce more economically, he must also learn business methods that will enable him to get a greater part of the ultimate selling price. This can come about only thru co-operation. Not only must farmers co-operate with each other but they must also co-operate with other big business enterprises. Farmers must also learn to eliminate unnecessary waste. Americans need to get in the way of considering welfare more than wealth. The typical American farmer must be maintained. The government and its institutions can not be maintained without him. But his business must be so successful that he will have a feeling of success and satisfaction. This makes for progress.

Agricultural education is the uppermost theme in our nation and it needs same direction. Rural schools, in the main, should fit rural people for rural life. The knowledge a boy or girl has gained before entering school should be recognized and made the basis of his school education, instead of its being almost entirely ignored as at present. The rural teacher should have a sympathetic appreciation of rural needs and opportunities.

Comparatively few people are really in love with the country, mainly because the ability to appreciate it for what it offers and furnishes has not been developed. Drudgery is emphasized and its lessons overlooked. Very often it is the mental attitude that makes the difference between drudgery and pleasure. If we have the real life within, the children of the home will be lifted up into higher things. Every country dweller should have an interest in the betterment of the community.

The teaching of the church and Sunday-school should be based on the common experiences of the community. The purpose of the church is worship first, but it must meet the life needs of the community or the people will not be called to worship. The rural communities need the church as much as any other community. This country needs individuals who have connection with the throne of God.—R. P. Kester.

McSPARRAN'S GRANGE NOTES

A Feasible Road Policy



When we take a position against the issuing of bonds by the state for road building it is not because we are not in favor of improved roads, nor because we are simply "knocking" at the Highway Department. It is because we are intensely interested in improved roads and are all out of patience with our Highway Department. The department has done nothing to improve the roads of the state, but has insisted on being allowed to waste the state's money on such a little percentage of our roads that its policy, if it can be called a policy, is simply ridiculous.

Every person is primarily interested in the roads that radiate from his own home or place of business, and hence any permanent state policy of road building and maintenance must be comprehensive enough to assist in the im-

provement of all the roads in the state. How many of us would be satisfied with a public school policy by which the state would spend a lot of money on two or three schools in each county and leave the rest to get along with little or nothing? And there is no more use in talking about a system of road building that looks to the extensive improvement of possibly 2 or 3 percent of our roads. The people of Pennsylvania, I feel very sure, will stand for no such policy.

This is just where our Highway Department has so miserably failed. It has evolved no comprehensive policy for the state-wide improvement of our roads. It has set no standards, has made no co-ordinations so that each part, from the township supervisor with his work to the chief engineer with his work, are but parts of our composite whole, and all working toward a definite end.

We believe that such a policy can be and should have been put in operation long ago, and we do not have to experiment in the evolution of such a policy either. Our public school system is a good and tried pattern. We have a board of supervisors, just as we have a school board, but while the school board has control of the expenditures of nearly all the moneys that is spent for work done in the district, the local board in our road affairs has nothing to do with the state money, except the paltry pittance that comes to it under the township road law.

This is entirely wrong. The dirt road and not the macadam is the first consideration. The state should set standards and have supervision of work done, just as we have a county superintendent of schools, whose work is to oversee the work done in the townships, and bring all up as nearly as possible to a standard. It ought to be so in our road improvement. How often we see a log and plank bridge put across a stream, only to be carried away when the next large freshet comes. The state should insist on permanent bridges, just as it does for a certain standard of teachers in the district schools.

Time and again we see dirt and stone piled on a soft road when what it really needs is drainage. We have seen bad rock projecting to the intense discomfort of the traveler thereon, when the use of some dynamite and a stone crusher would convert those boulders into splendid road at a minimum cost. Loose stones, instead of being annually raked out by scraper or drag and annually thrown back on the banks, should be crushed and used on places of greatest wear. Some townships are doing these and many other good things, but not because they have been helped or urged to it by our state highway system.

In our school system we have special schools for special purposes. So, too, in a comprehensive road system there would naturally be roads that would need special treatment. We have township high schools, state normal schools and special schools for the diseased and deficient, and yet no one objects to extra money being honestly spent on these special schools. So if we had our dirt roads in good condition, in the condition that intelligent systematic work would put them, no one would object to the much traveled road, such as those leading to the market town or city, receiving special attention. In fact, such special attention would be a natural part of the complete system. But a boulevard system, such as is contemplated by the present state highway law, to the neglect of our general road improvement, is a great injustice; and a department that would persistently perpetrate such a system need not expect to escape the charge of graft and political huckstering.

We can all have good roads and in a very few years if we will, as a people, demand local control of the expenditure of road moneys and a scientific supervision and graded appropriation according to standard of accomplishment. And we will not need all of these high-priced engineers. We will not need any bonds, and we will not have to wait until judgment day to get some general good results.—John A. McSparran.

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Philadelphia, Pa., July 26, 1913.

THE ROAD BOND ISSUE

The governor's announcement that he has no intention of calling a special session of the state legislature, even if the road bond amendment is passed, should not be permitted to influence sentiment on the issue. Unfortunately, there is nothing necessarily binding in such a declaration of intention, and voters must face the issue conceding the possibility, if not a strong probability, that the money will be made available as early as possible, and its expenditure begun before proper organization and preliminary work can be accomplished. From several sections of the state there are reports of certain road improvement being promised by the Highway Department in case the amendment is passed. As the department has made no official announcement of specific plans, there is opportunity for and danger of confusion in these semi-official promises. It will be interesting to all of the people of the state to know what promises are made in your county. A compilation of such promises may help to indicate just how far the department expects the proposed funds to reach, and incidentally indicate to you the possibility of fulfilling the promises made. Make an investigation of what is promised in your county and report to us, and we shall be glad to publish a complete list from such reports.

Governor Tener is now busy paring down the appropriations passed by the last session of the legislature, to bring them within the limits of the state's resources. This is a duty which falls regularly to the governors of this state. The practice of authorizing appropriations far beyond the known resources marks a deplorable lack of good system, enables the legislators to shirk responsibility and imposes a duty or a privilege (whichever way it may be regarded) upon the governor which the constitution of the state never intended he should have. The task this year is greater than ever before, as at least \$27,000,000 has to be cut off from the total appropriation of \$89,000,000 authorized by the legislature. This is a greater duty than should be thrust

upon a single official, and gives opportunity for discrimination between interests and institutions which is a positive menace. Were the governor to allow responsibility to rest where it is constitutionally delegated by permitting the appropriation bill to become law without his signature, we imagine that the jolt would have a beneficial effect upon succeeding legislators. Unless this is done, there must be some system evolved by which state expenditures can be controlled. Educational institutions, charities and various public works would profit thru the establishment of a system that would insure a stated sum each year, or for a stated period of years. This would remove such institutions from the influence of politics, which is always objectionable, and would relieve the legislators of a responsibility which they have shown a persistent willingness to avoid. As pointed out by our Harrisburg correspondent last week, this appears to be a good time to undertake such a departure from previous practice. The nominating system is to be changed, and the people are to be given an opportunity to act more directly upon party platform measures. Governor Tener made a good start in the necessary cutting-down process. At the time this is being written he has cut nearly \$6,000,000 from the general appropriation bill, distributing the cut over nine separate offices of the state government. Most important of these were \$3,400,000 from the Highway Department; \$1,000,000 from schools; \$165,400 from the State Railway Commission, which is to be succeeded by the Public Service Commission; \$114,687 from the Forestry Department; \$105,000 from the Common Pleas Judges; \$100,000 from Internal Affairs, and \$301,616.75 from miscellaneous branches. The Chestnut Blight Commission appropriation of \$100,000 was cut off.

The Compensation Bill

Now is the time for farmers' organizations to get together and agree upon a basis of application of the proposed compensation law to farm labor. The matter is now in the hands of a state commission which has been instructed to complete its investigation by December 1, of this year. There is every prospect that the matter will be taken up definitely at the next session of the legislature, and the bill will probably be based very largely upon the recommendations of this commission. This is a matter in which every farmer is vitally interested, and the right kind of representation before the commission will accomplish more than twice that amount of effort after a specific bill gets before the legislature. It was shown in the last session that the legislators are willing to listen to reasonable demands from the farmers and small employers. Those demands should be put into specific form, to insure careful and intelligent consideration, but not to act as a barrier to a needed reform. While farmers as a class are very much opposed to class legislation, and are the first to oppose special privilege in any form, they justly feel that the compensation law is one which must exempt the small employer. It is not a request for exemption of class as determined by profession or business interest, but exemption of all employers whose business and conditions of employment are such that a single case of compensated injury would mean financial ruin. This is the condition existing on many farms of the state. Perhaps the majority of farms in this state employ but one hand thruout the growing season. The margin of profit to the farmer is so small that a compensation

claim would wipe out the entire earnings from the season's work. There would be nothing for such a farmer to do but curtail production and operate only as much of his farm as he could work without hired help. In the case of the small trucker or fruit grower, where help is hired only for a short period, the risk is still greater, owing to a larger number of employees for the short season. While the risks are never great in general farm work, and the employee is never asked to do work that the employer is not willing to do, and is doing practically every day in the year, there is always a possibility of injury, and under a general compensation law the prudent farmer could not afford to take the risk. And what applies to the small farmer, applies as well to the small shopman, the household employer and small office employer, all of which would come under the operation of a general and unlimited compensation law. New Jersey made the mistake of enacting such a general law, and several cases of injustice to farmers and small employers have been reported; with the prospect that the law must be repealed or modified in the near future. Ohio exempts all employers employing five or less, and has had general satisfaction from its law. Pennsylvania may well profit by the examples from these two sister states, and frame its law to meet economic conditions. The time for study of these conditions and settlement upon an equitable basis is now, while the matter is in the hands of the commission.

Business Men and Agriculture

There is no other industry today that is receiving as much attention from all other interests as agriculture. With consumption rapidly overtaking production in our country, the importance of farming as the basis of national prosperity is coming to be generally recognized. Thus we have the railroads, banking associations, manufacturers and other industrial organizations all interesting themselves in the welfare of the farmer. Naturally, all efforts from these sources look to the one end of increased production, and the promotion work so far has been confined to giving instruction in methods of increasing crop yields. Prizes are offered from many sources for largest acre yields of corn, wheat, potatoes, etc., with the sole purpose of stimulating interest and inaugurating practices which will swell the aggregate of farm production, to make more freight, to increase supply of staple food products and to decrease cost of living. We believe that as a rule these efforts are appreciated and farmers are willing to make use of every available method of increasing their production. But they see but small inducement to increase crop yields unless it is to mean increased profits. Many farmers who have come in contact with this kind of promotion work will agree with the farmers of a certain locality in Texas, who objected to the giving of prizes merely upon the basis of acre yields. An organization in that state has undertaken an extensive promotion scheme, and is reported to be spending a quarter of a million dollars in the form of prizes for the best products grown by the boy and girl farmers of the state. An important farmers' organization of the state made a careful investigation of the plans, and then made a number of suggestions for their improvement. These farmers said: "It's better prices, not prizes, we want. Only one farmer can be benefited by prizes, but a half-million profit by increased prices." In other words, these farmers made it plain that production is not a problem which farmers would submit

to the business interests for solution, but indicated that business interests could render a valuable service by co-operating with the farmers in caring for the surplus products and helping place them upon the market in a manner which will aid in improving their homes, give their children better educational advantages and add to the prosperity and genuine uplift of the rural communities. This is the keynote of the entire problem, and the feature which those who wish to aid agriculture must observe. The best way to improve country conditions is to help make country work more profitable. Let the business men help by applying their business knowledge and training to the problems of marketing and co-operation, and thus enable the growers to secure a just proportion of the wealth which they create annually, and the farmers will look after production.

Spirit of Co-operation

An agricultural leader in another state who has traveled much in country communities and has made a life-long study of rural conditions thru personal experience and observation, writes:

"Had I the power to build an ideal rural community I would place the head of every family on a farm, not too large, and on every farm I would put a good dairy herd. I would induce them to build a co-operative creamery and form a breeders' association and a co-testing association. In every home I would have a good dairy and general farm paper. I would ask these heads of families to come together twice each month in some sort of farm organization, to study their business and its relation to life. With this good start they would build the school and the church. They would place in their homes those modern conveniences that make life easier for the family, and would develop a love for the pure and the beautiful in nature and art. Life would mean vastly more to them than to those who have never learned the meaning of true co-operation, and who, living for themselves, find the objects of their toil ever eluding their grasp."

Ideals are supposed to be unattainable, but there is little in this conception of the ideal that could not be attained in practically any rural community. There is much that might be attempted with profit by every community. It is the building of the neighborhood around a common center, that center to minister to all of the community needs. It would include the church, the school and the grange or the farmers' club. We would not all care to make the dairy the primary source of financial growth, any more than we would want every community alike in other particulars. The essential thing is the spirit of close community fellowship and brotherhood which can come only thru united effort for a common cause. It is the spirit of the Golden Rule universally applied. Today we call it co-operation.

STATE CAPITAL NEWS

The Agricultural Appropriation.—Altho Governor Tener found it necessary to cut the Department of Agriculture \$40,000, it is stated that the work of that branch will not be interfered with. This department was one of the very few to gain a new bureau, the governor having decided to allow the item of \$25,000 for bureau of statistics. A way is now opened for gathering of official agricultural data. Steps to organize the bureau will shortly be taken by Secretary Crichtfield, who is also to announce the names of the farm counselors soon. The department will have \$339,400, compared with \$277,500 two years ago. The State Live Stock Sanitary Board had \$50,000 cut from its fund for stamping out diseases and indemnifying owners, leaving \$441,000

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for its work. The Forestry Department was cut \$114,687, leaving it \$665,000 in round numbers. The forestry cuts were for employment of foresters, rangers and labor and other items. The sum of \$50,000 only is allowed for new reserves, so that there is small chance for the reserves going over the 1,000,000 acre mark this year. The \$5,000 items for advice on farm forestry and shade trees went by the boards. The Live Stock Board's deficiency appropriation to pay for cattle taken was passed, and this work will not be curtailed. The cut of the Highway Department by \$3,400,000 will allow but little new construction, but maintenance will be kept up.

Detail of Vetoes.—Details of cuts in the Department of Agriculture are interesting. The governor cut off the \$2,000 each which have been granted for years as subsidies to the State Horticultural Association, the State Dairy Union, the State Live Stock Breeders' Association, the State Poultry Association and the Pennsylvania State Beekeepers' Association. The farmers' institute appropriation work will last \$45,000, just what it had for the last two years. The appropriation of \$40,000 for farm counselors is carried in another bill, signed some time ago. The traveling expense fund of the department was cut from \$15,000 to \$7,000; seed inspection, \$8,000 to \$4,000; fertilizer inspection and tests, \$57,000 to \$45,000; linseed oil inspection, \$5,000 to \$4,000; feeding stuff inspection, \$32,000 to \$30,000, and apary inspection, \$3,000 to \$1,000. Most inspection work carries itself because of fees, and cuts will not cause curtailment, altho be inspection, which has just been inaugurated, will have to be scaled down.

Orchard Inspection.—State Zoologist surface is given \$100,000 for orchard inspection work. This is an increase of \$20,000 over two years ago, and indicates that the value of the work is recognized as most important. It will enable appointment of five demonstrators and extension of work.

Health and Schools.—The cuts in health and school departments do not and the appropriations as low as they were two years ago. Commissioner of Health loses \$25,000 from the \$225,000 appropriation for the medical inspection of schools, but the total appropriation to the department, including \$202,000 to fight tuberculosis, aggregates \$1,179,280. The school appropriation remains at \$15,000,000, but there will be added sums for vocational education, purchase of normals schools and various other items. The department of public instruction and its various bureaus aggregating almost \$200,000, including the State Board of Education, loses but \$4,000.

The Blight Commission.—The appropriation of \$100,000 for continuance of the work of the Chestnut Tree Blight Commission was vetoed. The governor did not consider that amount sufficient and the members of the commission agreed with him.

State College.—Two important bills for agricultural interests are to be acted upon late this week. State College, which was granted about \$1,450,000, may be cut to something over half, and similar cuts will be made in the bills for the University of Pennsylvania and other colleges. The other important bill is for vocational education, which is to be cut to a figure sufficient to organize it.

Bulletins Not Affected.—The issuance of bulletins from the various bureaus of the Department of Agriculture is not affected by the new law regulating distribution of state documents. These bulletins will be supplied as heretofore.

Road Work to Start.—The State Highway Department has taken the preliminary steps for the first extensive road construction for this year by asking for bids for nine sections of road aggregating almost 96,000 feet. This work is to be started before September ends and will probably be followed by letting of other contracts.

To Regulate Monuments.—One of the bills which went thru the legislature without much comment, and yet which will do more to head off money-spending schemes under the name of monuments, was the Sprout bill to provide for the State Historical Commission. This bill provides for the appointment by the governor of a commission to which shall be referred all requests for marking of historic sites and which is to make a study of places in Pennsylvania which deserve commemoration. Biennially the general assembly has been passing bills for monuments and tablets without much regard to the im-

portance or merit of some locations. This commission will first ascertain the facts regarding sites and then recommend what manner of monument or marker should be placed. This year close to \$250,000 is carried in memorial bills and they have slim chances of getting by. If the proposed bill becomes a law the next legislature will have the advantage of expert advice, and systematic commemoration can be worked out.

Complaint on Milk Shipping.—The State Railroad Commission, which will shortly be superseded by the new Public Service Commission, has received a complaint made by the milk shippers of western counties that the railroads require the farmers and producers to load cans. This is claimed to be a hardship, inasmuch as shippers of other commodities are not required to load, and that people are compelled to wait arrival of trains, which, as everyone knows, are not infallible as to time. In previous cases the commission has ruled against the complainants, but the latest case is of considerable scope.

Cold Storage Regulation.—The State Dairy and Food Commissioner has announced the enforcement of the new cold storage law on August 14. This is taken to mean that every owner will be expected to have premises ready for inspection on that day, and that the tagging of everything stored from that day on is to be required. The question of how goods in storage on that day are to be handled has not yet been settled.

Extending Orchard Work.—State Zoologist Surface is planning extension of orchard work as soon as the apple crop is harvested. It is his idea to have the additional inspectors named and ready to begin inspections very promptly. Orchards whose owners desire supervision are now being listed.

Lighting Highways.—An act, just approved by the governor gives the commissioners of first-class townships the right to light highways and turnpike roads when they deem necessary and to pay the cost out of the township funds. Other legislation gives the right to supervisors of second-class townships and the first time it is possible to obtain public lighting in rural communities.

Paying the Claims.—The State Live Stock Sanitary Board is getting ready to pay the claims of people whose cattle were killed to prevent spread of diseases. In every case affidavits are being insisted upon.—Hamilton, Harrisburg, Pa., July 21.

NEW YORK LETTER

Highway Matters.—The Commissioner of Efficiency and Economy summoned Commissioner Carlisle of the Highway Department to appear and explain certain things about the asphalt contracts, at the instigation of one of the asphalt companies. After the hearing Commissioner Carlisle called a public hearing on the asphalt question for July 23 at his office. All parties interested have been invited to attend the hearing, and it is hoped that some satisfactory conclusion of the asphalt controversy may be reached.

Pearson for Cornell.—The pleasing news to New York people comes from Ithaca that Raymond A. Pearson, now president of the Iowa State Agricultural College, may be appointed dean of the Cornell College of Agriculture. Dean Bailey's resignation takes effect on July 31, and the trustees will hold a meeting on July 26 to appoint his successor. Dean Bailey will remain in Ithaca for a year, pursuing research work in horticulture.

Big Speakers Scheduled.—Amenia, Dutchess County, is planning big things for its annual field day, which occurs on August 16. The speakers announced are Jane Addams, of Chicago; Gifford Pinchot; Herbert Knox Smith, former U. S. Commissioner of Corporations; Senator Clapp, of Minnesota, and Mrs. Elith Elliott Smith, of Philadelphia. This is a rural recreation day for young and old, to be enjoyed with appropriate sports in a wholesome way.

Wild Mustard.—This pest is manifest in a good many fields in this state and seems to be quite uncontrollable. The county agent of Onondaga County gave a demonstration last week to show how it may be eradicated. He sprayed 50 acres of barley, oats and corn with a solution of sulfate of iron, 100 pounds to a barrel of water. He claims that it will eradicate the mustard and will do the crops no harm. Prof. Barrus, of Cornell, is conducting experiments near Lakemont on the oat smut. Last spring he soaked the seed oats in a solution

of formaldehyde, and now on examination finds that these fields so treated are not much affected by the smut, while other fields not so treated are seriously affected. Farmers will be glad to know how the experiment turns out when the oats are harvested.

Farm Statistics.—According to the last census report, just being distributed, there are 215,597 farms in this state, containing 20,030,367 acres, valued at \$1,451,481,495. There are 166,674 farm owners, 4,051 farm managers, and 44,872 farm tenants. The total value of the crops of 1910 was \$209,168,236.

The Farm Bureaus.—There are now 17 farm bureaus in the state and a representative of the state agricultural department is visiting them to assist in a co-operative organization. The New York Central will send a hay car thru Jefferson county this fall. This car is devoted to demonstrations in the interest of the hay grower. Manager Robertson, of the Jefferson County Bureau, is planning to establish at Watertown a branch of the state traveling farm library. Dean Cook is endeavoring to have a farm bureau organized in St. Lawrence County.

Instruction in Agriculture.—In an address by Dr. L. H. Bailey before the school for Leadership in County Life he undertook to answer the question of how to meet the demands in the localities where there is a desire for instruction in agriculture. He mentioned four ways in which these demands may be met more or less completely. First, by opening the public schools to the work and equipping them for it. This procedure is already under way. Second, by means of demonstration farms, farm bureaus and various kinds of co-operative enterprises and movements. Third, separate or special schools for agriculture may be established. New York has now six of these. Dr. Bailey said that he was committed to separate schools which should be limited in number, properly placed and definitely organized on a state basis. Fourth, extension enterprise. The state should define a regular extension policy in agriculture and country life and should provide a means of holding regular winter schools in many different localities, the schools to be from one to three months in duration. It would not be difficult in some localities to relate such winter courses to the existing school work of the place. Perhaps a hall could be secured and put in condition cheaply to meet the demands of the rural community, and the experience of the best farmers should be brought in to supplement the instruction of the professional teacher. These schools should teach the affairs of the community directly, and help to meet the actual problems that the farmers are facing. These suggestions of Dr. Bailey are worthy consideration, and are the first along this line which the writer has seen.

Dutchess Farm Bureau.—If every county where the farm bureau enterprise is projected should enter into the spirit of the work as have the farmers and business men of Dutchess County there would be little doubt of its success. The secretary is receiving applications for membership by the score who wish to be identified with the bureau and do what they can to make the project a large success. E. H. Lacey, who has been until recently an instructor in agriculture at the Millbrook High School, is farm agent. He will have an office in Poughkeepsie, where he may be consulted at any time on farm problems. There will be a farm bureau exhibit at the county fair, and the agricultural contests already started by the Dutchess County Y. M. C. A. will be turned over to the farm bureau. The agent has arranged with Mr. Findley, a state expert of the department of agriculture, whose alfalfa fields at Salisbury Mills are the admiration of all who see them, to conduct a demonstration on the culture of alfalfa at the Amenia Field Day, when he will sow a field to be prepared by Professor Spingarn.

Oswego Grangers.—The Oswego Pomona Grange will hold its annual outing at Mexico Point on August 3. State Master Vary and Miss Harriet May Mills, of Syracuse, will be the principal speakers. An athletic program will be enjoyed.—D.

NEW JERSEY FARM NEWS

Can't Clear Land Along Railroad Tracks.—The Court of Errors and Appeals has declared unconstitutional the act of 1909 requiring railroads to clear land on each side of the tracks thru woodlands as a measure to prevent forest fires. The court says the act requires taking the land without just compensation. The object of the measure was a good one and its operation was beneficial, but the lawmakers blundered in endeavoring to clothe the State Forest Park Reservation Commission with authority to enter upon private property, not owned by the companies, and clear away the trees and other combustible material within the limits fixed by law. Some way must now be found by the next legislature to cure the vital defects in the statute. New Jersey has 2,000,000 acres of forest comprising 42 percent of the land area of the State. Surely, this is an asset worth conserving.

Potato Shortage.—Because of numerous reports that potato plants were dying in certain sections, M. T. Cook, state plant pathologist, has visited the infected districts and investigated the matter. Reporting his findings, he says: "In general the crop is much better than I expected to find and favorable weather for the remainder of the season will give 85 or 90 percent of a crop. The causes of the shortage, briefly stated, are as follows: (1) A rotting of the seed of the early plantings, due to a bacterial organism and to the cold, wet weather of the early spring. (2) The southern bacterial wilt, a very severe disease of potatoes, tomatoes, egg plants, peppers and tobacco in the southern states. The excessive dry weather of a few weeks ago was especially favorable to the progress of this disease. (3) Black leg or stem rot, a disease which is distributed thru the seed and could have been controlled by seed treatment with formaldehyde. Other minor causes are the fusarium or dry rot, and the scurf. In summarization it may be said that the cold, wet weather of early spring, and the excessive dry weather later in the season were unfavorable to the growth of the potato and favorable to its enemies. The proper handling and treatment of the seed would have reduced the losses to some extent."

Cover Crops.—The Mercer County Farm Bureau is now urging the farmers to sow winter cover crops and alfalfa as soil improvers, and in connection has planned for two demonstrations. These will be the third and fourth of the soil improvement series, the first and second having been with top-dressing and lime respectively.

Ocean County Contest.—The Ocean County corn growing contest last year was so successful that there are a large number of entries this year. As last year, entries are allowed for both corn and sweet potatoes. There are now over 125 entries. A feature of the work is that at least one hour each week must be devoted to the study of the pamphlets issued by the Commissioner of Education entitled "Introduction to the teaching of Elementary agriculture" and "Leaflet No. 3, Corn Growing."

Refuse Aid For Farm Bureau.—The Board of Freeholders of Sussex County have refused an appropriation of \$1,000 for the continuance another year of the Farm Bureau of that county. Prof. Alva Agee, state superintendent of farm demonstration, informed the board members that they were flying in the faces of the farmers of the county, and that he might force an appropriation.

Bull Calves as Premiums.—A novel feature at the Monmouth County Fair will be a cattle-judging contest for boys, 12 to 20 years old. This contest is intended to encourage boys to learn the good points of cattle, so that they may be able to judge them correctly when they take up farming for themselves. Breeders of purebred stock in the county will donate bull calves as premiums in this contest. These calves will be of registered stock, and in each case the calf when fully grown will fit to head a herd of high-grade cattle. The head judge in the cattle department will be one of the best judges of live stock in this country.—Prof. H. H. Wing, of Cornell University.

Racing at Monmouth Fair.—Premiums to the value of \$4,100 will be given for harness racing at the Monmouth County Fair, which will be held at Red Bank from August 28 to September 1. The board of directors has increased the purses from \$300 to \$400 in all the classes except the free-for-all, for which a purse of \$500 is offered.

Long Branch Horse Show.—Prize lists are out for the Long Branch Horse Show, which will be held at Hollywood Park on July 30-August 2.—D. T. H.

Robert's Promotion.

By Janet T. Van Osdel.

The sound of a boy's cheery whistle floated upon the still summer air. Mrs. Childs smiled as she heard it and, stooping forward in her chair, she drew aside the white curtains of the cottage window that she might better watch her boy's approach. Ah, there he was, and already he had seen her, for he was waving his cap in greeting. And he must be in a merry mood, for now he was tossing the cap up and catching it, as he ran. Entering the gate, Robert threw another quick salute at his mother, turning a rapid succession of handsprings, followed by half a dozen somersaults, and landed upright at the steps of the porch.

"Ten dollars a week, mother," he cried before he had fairly entered the cottage. "Now, what would you say to that? Oh, you wouldn't say, would you? You'll just let your eyes shine like stars and do the talking. Well, then, talk all right and I can see you won't do any crying over my leaving a job that pays \$4.50 a week for one that pays \$10. Oh, no you won't."

"My dear boy, that seems so incredible that I can't say much," answered Mrs. Childs. "Who in this town would pay a boy like you ten dollars a week? Not that you're not worth it, but business men don't see it. They count so much on years."

"Well, this job is just as good as got, tho I'm not put on the payroll yet. And it isn't in this town either, tho it's most as good. It's in the State Bank of Ashton. They're willing to pay ten dollars because only a boy who can furnish the best recommendations and can put up a cash bond can have the job. Mr. Morris says he will go bond for me and I sent recommendations from Mr. Schmidt and Mr. Curtis. This morning I got a letter from Mr. Pettigill, the president of the bank, telling me to call tomorrow at two o'clock sharp. Mr. Curtis knows Mr. Pettigill's ways to a T, because years ago they were in the grocery business together, and he says two o'clock means two o'clock with Mr. Pettigill, and if it was one minute after two when I got there the job would be canned for me. But no such chance! I'll be on the bank steps at five minutes before two, at four minutes of I'll walk up the steps, at three in the door, at two minutes up to Mr. Pettigill's private office, at one minute I enter and at two o'clock sharp I bow to the president. I'm just starved, mother."

"Yes, I know, dear, and I have everything ready. Just hand me my cane and I'll go out and dish things up."

"Dish nothing! You'll sit down in your chair at the table and I'll do the dishing."

Mrs. Childs complied readily enough for since her illness following upon her husband's death she had been far from strong, and was able to get about only with the aid of a cane. During this time Robert had been the sole means of support. Before his father's last illness he had worked in Mr. Curtis' grocery store out of school hours. But when he saw that he must become the provider for the home he gave up school and took a full-time position with Mr. Curtis. It was a small store in a little town and held no prospect for the future. So Mr. Curtis, knowing of the responsibility that had been placed upon Robert's young shoulders, advised him to keep a lookout for something better in Ashton, a thriving young city about six miles distant from Colegrove. Robert followed this ad-

vice and the result was his present prospect of a better position.

There was a hard shower during the night, but the next day dawned clear and cool. Robert was grateful for this, as he was planning to ride his wheel over to Ashton. The shower would have settled the dust and beaten down the sandy pike into prime shape for a wheel. Then, too, after a cool and dustless ride he would be more presentable when he appeared before Mr. Pettigill than after a hot, dusty six miles. The ordinarily no more particular about his appearance than are most boys of his age, on this occasion Robert was most anxious to look his best that he might make a good impression on Mr. Pettigill, as every boy can understand who has seen the likelihood placed before him of stepping from a futureless, poor-paying job into a promising, well-paying position.

Robert was up early. After doing the chores about the house he spent half an hour tinkering with his wheel putting it in good shape. Then he dressed in his best suit. He wished to start for Ashton at twelve o'clock, which would amply allow for any delay that might occur and make certain of his being before Mr. Pettigill at two. So he planned to have a lunch of crackers and cheese at the store and leave from there instead of coming home to lunch.

"When you see me again, I'll know for sure, tho for that matter I just as good as know now," he said as he mounted his wheel and rode away.

The morning passed slowly enough, for Robert was anxious to get the matter settled. At a quarter of twelve he weighed out half a pound of crackers and a quarter of a pound of cheese for his lunch and dropped eight cents in the cash drawer in payment. These strictly business-like ways of Robert sometimes amused Mr. Curtis a little, but they also pleased him and led him to place the strictest confidence in the boy. It was the strength of his recommendation that had given Robert the encouraging letter from the bank.

While Robert was eating his lunch Mr. Curtis had a telephone call from his wife, urging him to come home at once, as Betty, the three-year-old baby, had swallowed some poison.

"I'll have to go right up, Rob. You just hold down the business until Nathaniel gets back. Oh, you had that engagement with Mr. Pettigill, too. Well—"

"Don't bother a second about me, Mr. Curtis," cried Robert. "Just you hurry home to Betty. Nate'll get back in time and my wheel's in fine shape and so are the roads."

It was one o'clock before Nathaniel returned from dinner, and so Robert was fully an hour later in starting than he had planned. He rode away without any misgivings, for he was sure of himself and of his wheel.

He was within a mile of the limits of Ashton when he saw some distance ahead of him the figure of a boy or young man headed in the same direction as himself. He paid little attention to it, however, except to notice that the pedestrian was going along at a rapid gait. About a quarter of a mile farther on a roadster whirled past Robert. So quickly did it approach, and so close upon him was it when it gave a honk, that Robert barely saved himself by swerving so suddenly to the right that he was thrown from his wheel. Neither he nor the wheel were injured and he remounted and rode rapidly on. Then he gave a cry of hor-

ror, for he had looked up just in time to see the big car knock the walking figure to the side of the road and then tear on without stopping.

Filled with indignation, Robert put on all speed and in a moment dismounted by the side of the prostrate form.

"If it isn't Lute Rundell, Lute Rundell of all fellows!" And he looked scornfully enough at the boy lying before him. Many a taunt had come from those now-still lips as the dandy of Colegrove had met Robert on his errands for the grocery store. The jeers had ceased after Robert had had an impressive interview with him in a deserted alley, but Lute still assumed high airs when he came in contact with Robert at his work.

The accident had taken place near a bridge, and Robert knew there was a spring of water just to the side of the viaduct. He looked at his watch. Ten minutes of two and he was still half a mile from Ashton! Well, he certainly didn't owe any good turns to Lute Rundell! He would draw him to one side of the road and ride on to Ashton and have his interview with Mr. Pettigill, then if no one had taken care of Lute meanwhile, he would help him as he came back. He mounted his wheel and started, but it was only to circle and come back. No, he couldn't leave him alone, not even his old enemy, lying there helpless by the road.

He set his wheel against the bank and went to the spring, whence he returned with a can of cold water which he dashed on Lute's face. It brought the boy to instantly and he sat up, spluttering.

"Hello, Lute," said Robert. "Got knocked down, didn't you? Get up and see whether you've got any broken bones."

Lute got upon his feet. "Just weak, I guess," he said, after trying his limbs rather unsteadily. "How'd you get here, Rob?"

"Just riding back of you on my wheel and saw the whole thing. That crazy driver came near getting me, too, but I dodged just in the nick of time. All right now!"

"I guess so if only I had a drink of water. Would it—"

But before Lute could finish his sentence Robert was off for the drink.

"Oh, I guess the fall hasn't hurt me any," said Lute after he had drunk some of the water. "But what does hurt is that I had an appointment in Ashton at 2:15. I was going after a position. I had a chance at a big opening, one that you'd give your eyes for, I bet."

"It's five minutes after now," said Robert and he swallowed a big lump in his throat as he said it, for he had planned that at this time he would be coming down the bank steps with the position secured. The coincidence of Lute's being so near missing an appointment regarding a position, just after he had missed his own, gave Robert a kindlier feeling toward his erstwhile enemy than he had ever known before. At last he said, "You couldn't make it walking, but you could on my wheel. I'm late anyway, and ten minutes more or less won't make any difference now."

Lute rode away and Robert sat by the roadside for several minutes pondering what he should do. Finally he decided to go on to Ashton. There was just a possibility that Mr. Pettigill himself had been delayed in some way, or perhaps he might give him a chance anyway if he understood the reason for his delay. He quickened his steps to a run, almost wishing that he had kept his wheel and let Lute do the sprinting. He arrived at the bank steps, warm and perspiring, just in time to see Lute

swing thru the big door and come down the steps.

"Hello, hobo," he called as he caught sight of Robert. "I nailed it all right. I am now a member of the staff of the State Bank of Ashton and earning more in one week than you do in nearly three."

"You got that job!" cried Robert. "That's mine by every right and I gave it up to help you."

"Easy, now, easy! Just you trot on in and ask Mr. Pettigill what his opinion is of a young man who can't keep an appointment. Much obliged for your wheel. Annie Lee is going to drive over this afternoon and I'll ride home with her."

Robert, so angry he could scarcely see, mounted his wheel and rode away. And the last item of news did not tend to lessen his anger, for Robert would have given more for a smile from sweet little Annie Lee than from all the other girls in Ashton and Colegrove combined. It was not until many months later that Robert learned that Lute had heard by accident that Annie was to drive over and had simply resolved to ride home with her.

The real secret of the popularity of merry Annie Lee, with her mop of curly hair, her rosy cheeks and her freckle snub nose, was that she was a good friend to every boy of her acquaintance and she was wholly unconscious of the fact that she was popular. The girls who smirked and coquetted, so seriously proud of their monstrous bunches of hair piled up high on the little heads, their powdered and sometimes painted faces, their thin waist, their silk stockings, were sure they were very modish indeed, and wondered why the boys so willingly turned from all their charms to that little Annie Lee, who still wore her curls tied back with a bow of ribbon, who had never owned a silk stocking nor a high-heeled slipper, and who wasn't the least bit of a young lady, even tho she was nearly seventeen.

As Robert neared Colegrove he strove to put Annie and Lute both from his mind and tried to get full control of himself before he must meet Mr. Curtis and his mother. To the former he said as soon as he entered the store, "How's Betty?"

"Oh, she's coming on all right now. But we certainly did have a scare. And I suppose you're a young banker now?"

"No, sir," answered Robert, suppressing out two-pound packages of sugar with assumed indifference. "As a student kept me from getting there a time, and you know Mr. Pettigill."

"You bet I do! But pshaw! if you hadn't had to wait for Nathaniel to get back you'd have been off at twelve o'clock and that would have allowed for any accident, seems to me. I shan't think of my standing in your eye like that when I wanted so to see you get ahead."

But it was his mother whom Robert dreaded most to meet. He lingered as long as there was any excuse for so doing at the store, but at last he was compelled to start homeward. No whistle announced his approach tonight and he was already within the gate before Mrs. Childs saw him. He kissed her soberly and then came to the point of once.

"Mother, will you be dreadfully disappointed when I tell you that I didn't get the bank position? I want to tell you just how it happened. I didn't explain everything to Mr. Curtis, but I want to to you."

"I'm prouder of you because you felt you couldn't have done anything else than if you had been made president of the State Bank," said his mother when he had finished his narrative. "And now I wish to tell you

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that I have found a way of helping you out a little with the income. Myra Nelson stopped in this afternoon on her way from the postoffice and brought me a letter from Uncle Aaron. He says that he does so well in the horseradish business that he doesn't see why I can't make a little right here at home putting up that radish for market, and he sends advice as to how to do it, saying that you can probably give me a hand at it, too. We've got a lot of growing down at the end of our yard, and it's growing all over the neighborhood."

"That's a good idea, all right, mother," said Robert, forgetting his own trouble in the new idea. "There couldn't be much of a market for it here in Colegrove, but there would be some, for there are always a few people who would rather buy anything already prepared than to get it ready themselves, and then we'll try to make ourself a good relish that it will be the best in town. There will be a good market for it in Ashton, I am sure, and Mr. Curtis will let me take the storage for a couple of evenings a week so I can drive over there and deliver orders."

Thus it came that Robert soon supplemented his wage at the grocery store with a neat sum from the horseradish business. The combined income was more than he would have had at the bank, tho he put in longer hours. Twice a week he borrowed the storage wagon and drove over to Ashton where he delivered supplies to the hotels and stores. It was dusk one evening as he was returning from one of these delivery trips. Just beyond the edge of the town he saw a stylish turnout approaching Ashton. He recognized the rig Lute Rundell and Annie Lee. He had not been so near that he was sure they had already seen him, he could have turned back, for his old working clothes and the rattling delivery wagon were a combination which made him dread a meeting with his young companions in their best clothes and stylish equipage. For the moment he failed to remember that Annie Lee never noticed clothes, good or bad, and that he didn't really give a continental that Lute thought of him. They were all several rods apart when Annie's near voice rang out in greeting.

"Hello, Robert! Are you going right back to Colegrove?"

He heard, but heeded not, Lute's "Ah, there, peddler! Sell all your wares!" Instead he answered Annie.

"Yes, Anne, I'm going right home. I don't do anything for you?"

"Yes, you can take me along. I must go home, and Lute has an engagement in Ashton."

"Annie Lee—" began Lute angrily, but Annie paid no attention to him and with Robert's aid, jumped nimbly from the buggy to the wagon.

"I'll get even with you for this you can just believe, Rob Childs," called out Lute angrily as he lashed his horse and drove rapidly away toward Ashton.

"Whatever made you do that, Anne?" asked Robert.

"He did," answered Anne, indignantly. "I couldn't have stayed in his buggy another minute, and I'll never ride with him again, and you won't blame me either when you know."

"What do you think, Rob? That whole business of the accident was planned that day when you had the appointment with Mr. Pettigill. Lute found out in some way that you were the one who had first chance at that position. Mr. Pettigill wrote him that it was only in case you failed to appear that there was any chance for him. Judge Kenyon's chauffeur is a chum of Lute's, and Lute fixed it up with him that if he'd queer the game with you he'd pay him ten dollars. The plan was to

knock you down as he rode by. If he failed he was to brush up against Lute so that you, following behind, couldn't help but think that Lute had been struck. Lute wasn't even stunned. He was just pretending all the time. Of course, they chose a time when there wasn't anybody else in sight on the road, and you fell in with their plan and did exactly what they hoped you would do."

For a long while Robert said nothing. Then Anne became alarmed at the silence and at what she could see of Robert's white, tense face. At last she touched his hand to arouse him and said softly, "You aren't angry with me are you, Robert?"

"No," he said. "But such things make a fellow feel as tho he never wanted to go out of his way to help anyone again."

"Well, you're not responsible for Lute's lying and deceiving, and you won't have to take his punishment for those. You did the right thing just as it showed itself to you at the time and you couldn't have done anything else and been true to your best self. Just don't regret for a second that you did what you did. Anyway, you wait until you get home to your mother and you'll



learn of something better than two bank positions. I've told part of a secret, I know, but I couldn't stand the look on your face, and not another word will you get out of me, sir!"

Robert burst in on his mother like a young tornado. "What's the news, mother?" he cried. "Annie Lee told me that it was something wonderful!"

"I'll let you decide what to call it," said his mother, smiling fondly upon him. "Mrs. Lee and Anne called on me this afternoon and they stopped to bring my mail, just as so many of the kind neighbors do. The letter was from Uncle Aaron. He says that telling us to go into the horseradish business was really his plan to get us ready for something else. Uncle Aaron is quite an old man now and for a couple of years he has been thinking of turning over his little horseradish factory to someone else. He longs to spend the rest of his days pottering about among his roses and his fruit trees. He thinks that now you understand the business well enough to run it for him. Upon his death the business will be yours. While he lives you are to turn over 50 percent of the profits to him, but he says it clears never less than two thousand a year, and there's a chance for a young man to extend the business. That's your end of it. Mine is this. Uncle Aaron's daughter Minna is to be married, so Uncle wants us to make

our home with him in that charming little bungalow, and I'm to superintend the house with a little Japanese to do all the hard work. But he says that most of the time I'm to spend just getting well among the roses. And what seems to so beautifully complete our plan for going is that Mrs. Lee and Anne will go to California at the same time we do. If the climate agrees with Mrs. Lee they will live with her sister in a town less than 50 miles from Uncle Aaron's. Mrs. Lee has been wishing to go for the last year but dreaded to start on the trip. But with us for company she seems delighted at the prospect. Now, is it wonderful?"

"Oh, mother!" was all that Robert could say. But the mother understood—understood perhaps far more than the boy himself could, and she was satisfied.

HOME OF HOOSIER HORNETS

The accompanying illustration shows the home of the Hoosier hornet. It is a busy domicile, being filled with lively little inhabitants. The nest is 15 inches in length and 36 inches in circumference. It is suspended on some little bushes about three feet high.

This insect is of the wasp kind, but much more formidable, and considerably larger. It has four wings, the first pair being by far the largest, and with these it flies with great velocity. The head is oblong, and yellowish; the eyes are prominent and semi-lunated, and between them are two falciform antennae. The body is united to the shoulders by a slender filament; the middle of the fore part is of a dark brown hue, marked with a deep yellow belt, and the hinder part is wholly of that color, except that it is variegated with eight brown spots. The hornet, like the wasp, is extremely voracious and preys on almost

any kind of fresh animal substances which it can obtain, as well as on honey, fruit, etc. Its sting is greatly to be dreaded, and is often productive of serious consequences.

The hornet's nest is generally built in the cavity of some decayed tree, or immediately beneath its roots. Not infrequently it is found in timber yards and other similar situations. It is of a rounded form, made of coarse materials, and of the color of faded leaves. The materials of which the nest is composed are prepared from particles of old wood or bark, reduced, by means of the insect's mandibles, to a kind of soft pasteboard. With this, after the nest has been thickly plastered on the inside, they make horizontal combs suspended from above by strong columns, the central being the largest; the cells are hexagonal, with the opening downward.

A few females, or perhaps a single one, having escaped the rigors of the winter, lay the eggs for the nest. They hatch their eggs in the spring, the first broods being neuters, which, when perfect, help their mothers in the domestic economy of the nest. The larvae are footless, each enclosed in a separate cell, where it is fed on insects and honey stolen from bees. When the larvae have acquired their full growth they line the cell with silk, cover the

opening, and in this undergo their metamorphosis. The neuters aid in building the other nests and in feeding the successive broods of larvae. As the family increases, new cells and additional platforms are constructed.

The young females and young males come forth about the beginning of autumn, and all larvae which can not become perfect before cold weather are destroyed by the neuters. The males perform no labor. Both sexes meet on the trees in autumn, feeding on saccharine juices, and soon perish from the cold. There are about 150 individuals in a nest.

A well-known naturalist writes: "The hornet is a very pugnacious animal. They will fight desperately with each other at times, when they meet in pursuit of prey, biting each other's body and trying to get their mandibles under the head of their opponent, to snap it off. I one day confined, under a glass, two of these creatures which had been fighting. One had evidently the mastery, but both had been so injured in the contest that they soon died. It is most probable that they fall victims to each other's voracity in the cold damp season that usually terminates the autumn of our year."

THE GOLDEN CITY

By Clara E. Putnam

There once was a golden city
That sparkled and shone from afar.
Like the golden rays that glitter
In the depths of every star.

There were many who tried to find it,
For its fame spread far and wide;
And many pilgrims sought its gates
O'er the rugged mountain-side.

And yet there were some who reached it
Who said that its gold was brass,
That when you had climbed to the gateway,
Its shining light would pass.

While others said that its beauty
More radiant far did seem
Than the brightest of life's ambitions,
Than the sweetest, wildest dream.

Even now there's a golden city
That leads us up and on
With its shining rays of promise,
With the echo of its song.

But some who will climb the mountain,
For its beauty may not care;
For it isn't the city that matters,
But the heart that enters there.

In a Pennsylvania town where quakers abound a prim maiden one day attended the marriage of her grandnephew, a young person who had in the course of his twenty-one years received much-needed discipline at her hands.

The old lady was at her best on this festive occasion, and at a pause in the wedding breakfast her young relative looked over at her with a beguiling smile.

"Tell us why thee never married, Aunt Patience?" he said, tensely.

"That is soon told, William," said the old Quakeress, calmly. "It was because I was not as easily pleased as thy wife was."

"Willie," said the mother sorrowfully, "every time you are naughty I get another gray hair."

"Gracious!" said Willie; "you must have been a terror. Look at grandpa!"

She—We women suffer in silence.
He—I suppose that's why you never permit it to exist where you are.—Boston Transcript.

Household

LITTLE VACATION TRIPS

For several reasons it is impossible for the average farm family to take a vacation during the summer months. The best way I have found to secure the necessary change and rest is to make just as many little excursions into the woods and surrounding country as are possible.

It is surprising how many days can be found for this if both husband and wife are interested and plan their work accordingly. When we are going to have a day off we get up very early and hustle the chores out of the way as quickly as the there was to be a big day's work done, and start early on our day of pleasure. My preparations are made the day before, except mixing a salad or making sandwiches. Sandwiches with salad or baked beans, fruit or jelly and cake, make a satisfactory lunch and are easily gotten ready and carried.

We always enjoy a day spent in the home woods. When we go there a safe horse is hitched to a light wagon, the hammock, pillows, robes, books and the

good man: "Well, how do the maples look to you now?" "Very good, very good," he replied. He was just like Farmer John who said, when he returned from a real journey, "The best of a journey is getting home." This is why we need to roam, even tho it can be but for a day. Let the days come as often as possible.—Barbara Hill, Erie Co., Pa.

APPLE CORER AND PARER

This apple parer pares the whole apple, including the end. The frame is one piece and the gears are above the paring and juice. It is so simple that a child can use it.—Housekeeper.

OPEN AIR "CURE"

A farmer's wife of my acquaintance, after having a severe attack of pneumonia, was left in a very weak condition, both lungs being involved, and she apparently declining rapidly. Her physician told her that her only hope of recovery lay in a complete change of climate, a long rest, and an abundance of nourishing food. With a large family and very little ready money, her outlook was tragic, as a change of climate was about as possible for her as

she considered herself well enough to go back to sleeping indoors, having taken on 30 pounds of flesh and feeling almost as strong as before her illness. Her expenses were comparatively nothing, as of course the farm supplied the articles of her diet and the sleeping arrangements were too primitive to be any expense. The only thing for which money was used was for extra help in the kitchen and housework, for which she had a woman come in several times a week. She is now apparently completely restored to health, and the "Great White Plague" has been cheated out of a victim.—E. M. Parrott, Maryland.

CANNING GREENS

Why not can a few jars of beet greens or spinach for winter use? Beet greens are easy to prepare and plenty of tops are usually available at thinning time. Select them when young, and if small beets have been formed the greens will be better. Wash the greens thoroughly free from foreign matter, rinse in several waters, and cook in a small amount of water, or steam them. When cooked enough, usually from 20 to 30 minutes, put into sterilized jars, press down until the liquid covers the top and seal and set away for use when desired.

Spinach may be canned in the same manner. If the greens are steamed there will be a small amount of liquid present. Sealding vinegar may be poured on after putting the greens in the jars. Try at least one can of greens this year, they are cheap, easily canned, and furnish a pleasing and wholesome variety.—M. L. Bull, Minn. Univ.

PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give full measure when ordering waist patterns, waist measure for skirt and age for children's patterns. Address Pennsylvania Farmer, 214-18 So. 12th St., Philadelphia, Pa.



APPLE CORER AND PARER.

lunch are packed in. Then we walk or ride, just as we prefer. We pick out a shady, grassy spot near a spring of water. In a short time the horse is made comfortable for the day, robes spread and the hammock hung between trees. Then we are ready for a day of perfect rest. Children are wild over a day spent in this way. We have lunch enough for supper, too, and eat it before going to the house. Thus my work is made very light for the rest of the day. These days rest us more than when spent in any other manner.

When we want a great, big day we get an auto to take us farther than we could drive. Not long ago we, together with two friends, autored to a lake several miles from home. The day was perfect, everyone in the best of spirits, the car a fine one, and the driver obliging. He ran slowly to give us a good opportunity to enjoy the country as we went along. The air was full of the odor of roses, sunlight and the songs of birds. It seemed as tho it would have been impossible to remember care and labor on such a day. So we gave ourselves up to the pleasure of the hour. We had a long, delightful day at the lake, came back by a different route, and got home in time for the evening duties.

Did it seem harder to go to work after a day spent in this manner? Not at all. We returned tired in body but rested in mind. Home seemed a very delightful place after all. We had traveled thru a section of unusually fine farming country. The land was productive, buildings fine, and grounds well kept. That evening I said to the

a trip to the moon. Being a woman, with a great deal of determination, as well as a great desire to get well and strong, she immediately set out to work out her own salvation.

As she believed living out of doors to be beneficial to persons in her condition, she first made arrangements to sleep in the open. Fortunately, one bedroom opened upon a roofless balcony, and here she placed her cot, having made a canopy of some old porch awnings to use as protection from dampness, and here she spent every night unless it was very stormy. Realizing that she needed as much exercise as she could take without tiring herself, and wishing to still be as much help as possible to her family, she had a cupboard, a table and chairs placed on the back porch, and there she did much of the baking and preparation of meals. Every possible minute of the day and night was spent in the open air, unless stormy.

In addition to her regular meals, the diet being as generous as possible, she took a glass of milk and a raw egg about every three hours. She rested for an hour or two in the morning and afternoon and retired at an early hour every night. When she felt sufficiently strong she worked at her flowers in the garden and on the lawn, taking care to stop the instant she felt tired.

This treatment was begun in March. By the early fall there was a marked improvement in her condition. She was perceptibly stronger, there was a trace of color in the one-time white cheeks, and she had begun to take on weight. At the beginning of winter, inch goods. Price, 10 cents.

4616—Boys' Russian Dress.—Sizes 1, 2 and 3 years. Age 2 requires 24 yards, 27 inches wide. Price, 10 cents.

5696—Girls' Dress, with Skirt Plaited or Gathered.—Cut in 4 sizes, 6 to 12 years. Age 8 requires 34 yards of 36 inch goods. Price, 10 cents.



5247—Ladies' Eight-Gored Skirt.—Six sizes, 22 to 32 inches, waist measure. Width of lower edge for 24 waist is 2 1/2 yards and requires 3 1/2 yards of 30-inch material. Price of pattern, 10 cents.

5784—Ladies' Dress, having Six Gored Skirt.—Cut in 6 sizes, 32 to 42 inches bust. Size 36 requires 61 yards of 36-inch goods. Price, 10 cents.

4784—Girls' Dress, Closed at Front.—Cut in 4 sizes, 6 to 12 years. Age 8 requires 34 yards of 36-inch goods. Price, 10 cents.

4616—Boys' Russian Dress.—Sizes 1, 2 and 3 years. Age 2 requires 24 yards, 27 inches wide. Price, 10 cents.

5696—Girls' Dress, with Skirt Plaited or Gathered.—Cut in 4 sizes, 6 to 12 years. Age 8 requires 34 yards of 36 inch goods. Price, 10 cents.



Mrs. Countrywoman—"Well, people talk about the beauties of farm-life, but I can't see 'em. It's work all the time and no rest! I hate the country!"

Anty Drudge—"No rest indeed! Just let me show you how to do your work with Fels-Naptha Soap and you'll sing a different tune."

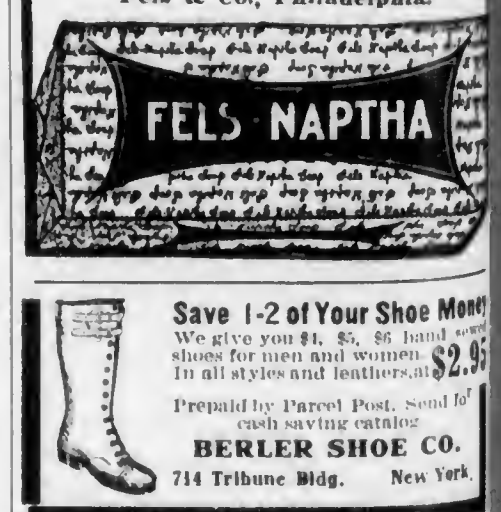
Fels-Naptha helps every woman to do her work quickly, easily and better than we was ever done before.

Fels-Naptha Soap dissolves grease. Makes dirt disappear in cool or lukewarm water.

If you don't use a washing machine you know how hard it is to rub, rub, rub your clothes up and down on the washboard! With Fels-Naptha you just use your hands to give the clothes an easy rub or two. Don't boil! They're ready for the line in a jiffy.

Easy directions are on the Red and Green Wrapper.

Fels & Co., Philadelphia.



Save 1-2 of Your Shoe Money! We give you \$1, \$2, \$3, \$4, \$5, \$6, \$7, \$8, \$9, \$10, \$11, \$12, \$13, \$14, \$15, \$16, \$17, \$18, \$19, \$20, \$21, \$22, \$23, \$24, \$25, \$26, \$27, \$28, \$29, \$30, \$31, \$32, \$33, \$34, \$35, \$36, \$37, \$38, \$39, \$40, \$41, \$42, \$43, \$44, \$45, \$46, \$47, \$48, \$49, \$50, \$51, \$52, \$53, \$54, \$55, \$56, \$57, \$58, \$59, \$60, \$61, \$62, \$63, \$64, \$65, \$66, \$67, \$68, \$69, \$70, \$71, \$72, \$73, \$74, \$75, \$76, \$77, \$78, \$79, \$80, \$81, \$82, \$83, \$84, \$85, \$86, \$87, \$88, \$89, \$90, \$91, \$92, \$93, \$94, \$95, \$96, \$97, \$98, \$99, \$100, \$101, \$102, \$103, \$104, \$105, \$106, \$107, \$108, \$109, \$110, \$111, \$112, \$113, \$114, \$115, \$116, \$117, \$118, \$119, \$120, \$121, \$122, \$123, \$124, \$125, \$126, \$127, \$128, \$129, \$130, \$131, \$132, \$133, \$134, \$135, \$136, \$137, \$138, \$139, \$140, \$141, \$142, \$143, \$144, \$145, \$146, \$147, \$148, \$149, \$150, \$151, \$152, \$153, \$154, \$155, \$156, 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Veterinary

(Conducted by W. C. Fair, V. S.)
(Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer. Initials only will be published. When reply by mail is requested, it becomes private practice, and a fee of \$1 must accompany the letter. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, would make one of the most valuable medical symposiums a farmer-stockman could obtain.)

Eczema.—I have a colt, 4 weeks old, that appears to be healthy, except hair around head and neck sheds off in patches. This skin trouble is spreading; we have looked for lice, but fail to find any. The colt rubs himself and must be itchy. Have tried home remedies, such as washing it in creolin and greasing with mutton tallow. H. E. M., Franklin Forks, Pa.—Dissolve 1 lb. bicarbonate of soda and 1 lb. borate of soda in a gallon of clean water and apply to itchy parts of colt, night and morning. Give him 5 drops Donovan's solution at a dose in a little milk or water, 3 times a day.

Imperfect Throat.—My mare had twin colts, one male, the other female. The horse colt makes a rattling noise while breathing. I would like to know what can be done for him. T. R. K., Chalfont, Pa.—Apply 1 part tincture iodine and 10 parts camphorated oil to throat every day or two. It is possible for him to get well without treatment. I have known cases of this kind to be relieved by removing polypus from nose; therefore, you had better examine both nostrils and nasal chambers, but I am inclined to believe you will find the trouble in throat, caused perhaps by an enlarged gland or an imperfect development of throat.

Paralysis—Shocked by Lightning.—Poisoned by Lice Powder.—I have a beagle pup about 8 months old that was troubled with a brown louse. To relieve him, I sprinkled him with the kind of lice powder I have sent you. The lice powder was applied on Thursday and pup seemed to be all right until Saturday night. About 5 o'clock Saturday afternoon the lightning struck a fence, 50 feet from the stable where the pup was housed. After the storm was over I found the pup and he was unable to walk; his fore legs appeared to be paralyzed and on Sunday morning he was unable to get up. He has been perfectly helpless ever since. His appetite is as good as ever, but his bowels fail to move. Do you think the lightning paralyzed him, or was there something in the powder that might affect him? After applying the powder, he was not exposed to rain storms. This is a nice pup and I would like to have him cured if you think he is curable. A. E. C., Peters Creek, Pa.—If your pup had been struck by lightning, he would show more or less burns at point of penetration and less singe at point of exit; besides, it is very improbable that he could be affected 50 feet away from where the lightning struck. Furthermore, a shock of electricity severe enough to do much harm usually kills, causing death by paralysis of the heart. Now, if the lice powder had poisoned him, paralysis of the hind quarters should have taken place first; therefore, I believe it due to other causes. Give him one-sixtieth of a grain of strychnine and 5 grains potassium bromide, at a dose, 3 times a day, and rub him well with alcohol twice a day. This is about all you can do for him. Give anemas of soap suds.

Chronic Grease Heel.—My 4-year-old driving mare has a roughness of skin below fetlock and on back part of shin. She was in this condition when I bought her and she was reported to me as having had cracked heels a year ago last winter. I applied turpentine and lard, but it failed to help her. B. T. Y., Tidoune, Pa.—Her heels will never again be normal. The skin will always be rough and horn-like. The hard, horny insensitive parts should be cut off with a sharp knife. Then apply 1 part oxide of zinc and 4 parts vaseline every day.

Capped Hock.—I have a black stallion that is sound with the exception of having a small puffy bunch on point of hock. He has been in this condition for the past two years and has never shown any lameness. I am anxious to have this bunch taken off. B. F. R., Espyville, Pa.—You will obtain fairly good results by applying 1 part tincture iodine and 2 parts spirits of camphor to enlargement, every 2 or 3 days.

PROTECTION OF MIGRATORY BIRDS

The Department of Agriculture announces the selection of 15 men prominent in the protection of game and other birds in various sections of the country to advise the secretary in framing regulations to make the new federal protection of migratory birds effective. Among those selected, and who have already consented to assist in this advisory capacity, are: John B. Burnham, New York City, President of the American Game Protective and Propagation Association, chairman; E. H. Forbush, State Ornithologist, Boston, Mass.; Dr. George Bird Grinnell, New York, Vice-president of the Boone and Crockett Club and former Editor of Forest and Stream; Dr. William T. Hornaday, New York, Director of the New York Zoological Park; Marshall McLean, New York, Chairman Committee on Conservation of Wild Life of the Camp-Fire Club of America; T. Gilbert Pearson, New York, Secretary National Association of Audubon Societies; Hon. George Shiras, 3d, Washington, D. C., author of the original bill protecting migratory birds; and Gen. John C. Speaks, Chief Warden, Columbus, Ohio.

The proposed regulations, which do not go into effect before October 1, 1913, are designed to secure the following results: (1) Uniformity in protection of migratory game and insectivorous birds in the several states. (2) Protection of birds in spring while en route to their nesting grounds and while mating. (3) Uniformity in protection of migratory birds at night. (4) Establishment of protected migration routes along three great rivers in the central United States. (5) Complete protection for five years for the smaller shore birds and other species which have become greatly reduced in numbers. (6) Reduction of the open season on migratory game birds, but in most cases not more than 25 to 50 percent.

The regulations consider the following as migratory insectivorous birds, within the meaning of the act: Bobolinks, catbirds, chickadees, cuckoos, flycatchers, grosbeaks, hummingbirds, kinglets, martins, meadow larks, night hawks or bull bats, nuthatches, orioles, robins, shrikes, swallows, swifts, tanagers, titmice, thrushes, vireos, warblers, waxwings, whippoorwills, woodpeckers, and wrens, and all other perching birds which feed entirely or chiefly on insects.

Among the provisions suggested by the proposed regulations is a daily closed season on all migratory game and insectivorous birds which will extend from sunset to sunrise and prevent night killing of birds. It also proposes an absolutely closed season on migratory insectivorous birds to continue to December 31, 1913, and thence each year thereafter from January 1st to December 31st. It will make an exception in the case of reedbeds or ricebirds in Delaware, Maryland, the District of Columbia, Virginia and South Carolina, where the closed season is from November 1st to August 31st, inclusive.

A five-year closed season on certain game birds is provided, to continue till September 1, 1918. A closed season is ordered between January 1st and October 31st, inclusive, of each year, on all migratory birds passing over or at rest on any of the waters of the main streams of the Mississippi River between New Orleans and Minneapolis, the Ohio River between its mouth and Pittsburgh, and the Missouri River between its mouth and Bismarck. The purpose of this is to allow waterfowl a safe highway from winter feeding grounds to nesting grounds, which can be generally recognized. The killing or capture of any such birds on the shores of these rivers, or from boats, rafts, or other devices, is prohibited in this season.

Zones for the protection of migratory game and insectivorous birds are to be established by the proposed regulations as follows: Zone No. 1.—The breeding zone, comprising states lying wholly or in part north of latitude 40 degrees and the Ohio River, which includes 25 states. Zone No. 2.—The wintering zone, comprising states lying wholly or in part south of latitude 40 degrees and the Ohio River, which includes 23 states and the District of Columbia. All these proposed regulations will be made the subject of hearings, and persons wishing to recommend changes are advised to make application to the Secretary of Agriculture. Whenever possible, hearings will be arranged at central points, and due notice will be given by publication to those who are interested.

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A Safe, Speedy and Positive Cure for Curb, Splint, Sweny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lamenesses from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

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THE KEYSTONE OF
NATIONAL PROSPERITY



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PHILADELPHIA, PA., SATURDAY, AUGUST 9, 1913.

The Home-Mixing of Fertilizers By The Country Parson

"Fertilizer is humbug." My Wuertemberger friend, Joseph Meyer, assumes all responsibility for this sweeping statement. Some four years ago he came from Kansas to Maryland, where he bought a worn-out farm about half way between Baltimore and Washington. It is an attractive piece of rolling, loamy soil, drained by a sluggish stream. Meyer is deepening the stream and hauling the muck he takes out of it upon his uplands. He hopes to provide his farm with better drainage, his cattle with a better pasture and his depleted uplands with humus. He places his entire reliance upon the rich black leaf loam and muck, together with the stable manure from his manure shed. Meanwhile he insists that "fertilizer is humbug."

His proposition is to restore to productiveness by refertilization and drainage a worn-out farm

while making a living out of a flock of hens, a vineyard, an asparagus bed, a few good cows and a garden. I have no doubt of his ultimate success. He has built a manure shed in his barn, arranged in such a manner as to enable him to drive his manure spreader in at one end and out at the other. He keeps all the cattle he can feed. It would be a good plan to haul the muck into his manure shed and let the cattle thoroly mix it with their bedding and waste fodder. This would mean double handling, but the compost would be invaluable when it came to getting quick results from his garden and asparagus bed. On the rear end of his manure spreader he has fitted a sort of hood, so arranged as to deposit the manure in the bottom of a furrow instead of broadening it. He is also ditching some of his fields, breaking thru a hard crust of clay about two feet below the surface which held the water, especially where there was a depression in the lay of the land. It was all hard work, but he is sticking to it, insisting that manure is the thing and fertilizer is humbug.

His explanation of this sweeping dictum is a shrewd one. "Suppose," said he, "I buy fertilizer. Who made it? Some man in the city. He has a big factory on which he pays heavy taxes. He lives in a fine house. His wife rides in an automobile. Who pays the bill? Joseph Meyer. He sends me an agent. This agent wears a big gold watch and drives a fine team. When he comes to my place he has plenty of time to talk. If I meet him in town he asks me to come and have a glass of beer with him. Now, who pays for all of this? Joseph Meyer. I tell you fertilizer is humbug."

My sturdy Wuertemberger friend's logic might be faulty, but his reasoning was not so bad, for it can not be denied that there is lots of humbug in

this fertilizer business. Joseph Meyer had never heard of Dr. Cyril Hopkins, but there is an astonishing similarity in their conclusions with respect to so-called "complete fertilizers," which is what he had in mind.

The farmers of the United States used 1,000,000 tons of fertilizer on their fall seeding in 1912, for which they paid about \$25,000,000. How many of these dollars were intelligently spent? How much of the fertilizer was intelligently used? How many farmers when applying it had a clear conception of what they were trying to do? How many of them knew the requirements of their particular field and the crop they aimed to produce?

Experiments by Mr. D. E. Brown on the Experiment Station plots at Upper Marlboro, Prince Georges County, Md., show no beneficial results

help him become his own fertilizer manufacturer and agent. A request will bring an expert to his farm who will examine it, advise him as to its needs and suggest ways and means to economically secure and apply those elements of plant food which his soil may lack. For the farmer, under such circumstances, to leave this whole question to the self-interest of a fertilizer manufacturer and his local agents, instead of studying the needs of his particular farm or field, in order to intelligently purchase, mix and apply the few ingredients actually needed to grow profitable crops, while maintaining the fertility of his soil, is childish.

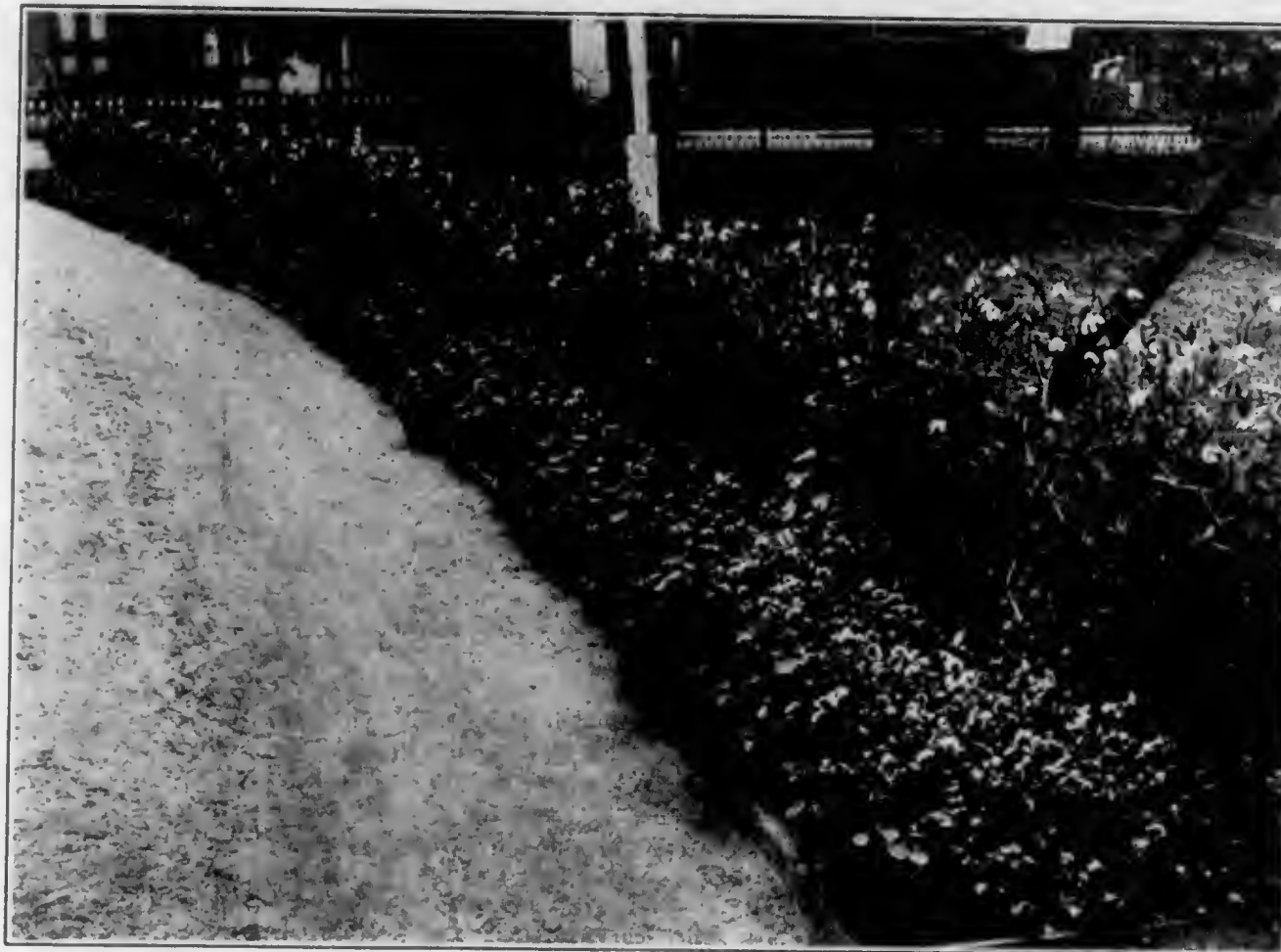
On the other hand, the experiments of the Upper Marlboro Station would also go to show that Dr. Cyril Hopkins' three-ply formula, ground limestone, phosphate and kainit, can not be applied without some thought and study. If the application of nitrate of soda is highly efficient, and if the use of lime and legumes always increase crop production, while the application of phosphate and potash in commercial forms fails to give profitable returns, then I can conceive of conditions under which the purchase of nitrogen in commercial forms (which Dr. Hopkins emphatically condemns) rather than floats or potash, would be a profitable investment.

Again, the use of cover crops obtained by sowing rye or crimson clover in a field of corn after the last working (which Dr. Hopkins does not sufficiently emphasize) may be a much cheaper and more effective way to secure a supply of nitrogen and vegetable matter than a premature attempt to

get a stand of alfalfa; especially, where there is good reason to suspect the presence of an acid subsoil which can not be overcome by one application of ground limestone.

This whole fertilizer question, instead of being a deeply mysterious, esoteric science, the knowledge of which is confined to the few very elect, is comparatively simple. Boiled down, it comes to this: (1) Every plant lives and grows by feeding upon the air and the soil. (2) A fertile soil contains all the elements needed by a certain plant, in the required quantity and in available form. (3) Every plant or crop takes from the soil those elements needed for its growth. Unless replaced, the soil is made just that much poorer by the loss of these elements. (4) All fertilization (manure, green fertilizer or chemicals) is but an attempt to restore these elements to the soil. (5) As this is successfully done, the fertility of the soil is maintained or increased.

In other words, you can not take more out of a tub than it contains, or than you put into it. Of



TASTY DECORATIVE PLANTING ALONG A NEW JERSEY ROADWAY.

from the application of phosphates in any form. The experience of practical farmers in the Collington loam belt of this county (the same soil type as the Marlboro experiment plots) corroborates the results obtained by the station. While nitrate of soda is highly efficient, and while legumes and lime always increase crop production, the application of phosphate and potash in commercial forms does not give profitable results.

And yet, when purchasing mixed fertilizer, the farmers who are working this soil type, in order to apply a comparatively small amount of nitrogen, which might largely be secured by growing nitrogen-gathering plants, regularly pay for a large amount of phosphate and potash which their soil does not need. Certainly in this case Joseph Meyer is partially right in contending that "fertilizer is humbug."

What makes it worse is this: The farmer is humbugging himself. He lives but a few miles from the State Experiment Station, which, together with the Department of Agriculture, is most anxious to

the 10 feed elements needed by every plant, the farmer is concerned with only four: Nitrogen, calcium, potassium and phosphorus. Hydrogen is supplied by rain, carbon and oxygen by the air, and magnesium, iron and sulfur are sufficiently present in all soils. Strictly speaking, lime is not a fertilizer. It is used to make heavy clay soils friable, to aid the decomposition of vegetable matter, and to remove the acid condition of certain soils, which prevents proper nitrogen fixation. So the farmer is called upon to decide only where and in what form he will use lime.

In Maryland, where ground oyster shells, containing 95 percent of carbonate of lime, can be bought at \$1.50 per ton, and ground magnesium limestone at \$1 per ton, this ought not to be a difficult question to decide, for he may safely assume that almost any soil will be benefited by the application of lime in this form. Burnt lime is always caustic, and when purchasing hydrated lime the farmer should bear in mind that he is paying for one-third of a ton of water with every ton of lime he may buy. To forget this is to invite more humbug.

When Joseph Meyer said "fertilizer is humbug" and pinned his faith to stable manure and decomposed vegetable matter, he did not realize that stable manure or compost enriches soil only as it contains the three essentials of plant food, and that it is a fertilizer in exactly the same sense as that which he so vigorously condemned. Nor did he realize that his stable manure might be rich in nitrogen in proportion to its content of potash and phosphorus, and that its effectiveness might be materially increased by the addition of these two elements in the form of kainit and finely ground phosphate rock. Had he realized this and acted accordingly he would have taken the first step toward being his own fertilizer manufacturer and agent. As it was, he hauled out and spread his manure in a hit or miss sort of a way. But with all his efforts, he could manure only a small part of his farm. Had he sought to increase its supply of nitrogen by growing legumes, its supply of humus by plowing under green vegetable matter, its supply of potash and phosphorus by using kainit and "floats," he would again have been his own manufacturer.

It was possible for him to go even farther. For his potash supply, he might buy exactly the same thing the fertilizer manufacturer buys: Sulfate of potash, muriate of potash or kainit. For his phosphorus supply, he might buy acid phosphate, bone-meal, dissolved bone black, Thomas slag or raw rock. For his nitrogen supply he might buy nitrate of soda, sulfate of ammonium, cottonseed meal or animal refuse. He could mix these plant foods to suit the requirements of his soil and crop. All he needed was a smooth floor, a weighing scales, a sieve and a shovel.

If the fertilizer manufacturer was to tell him that the mixing could not be properly done without elaborate machinery, Joseph Meyer might convince himself by trying to do a little fertilizer mixing on some rainy day. The quantities of nitrogen, potash and phosphate to be put in his mixture may readily be determined, either by experimentation on his own farm or by correspondence with his state experiment station. After mixing, the fertilizer may easily be put into sacks. All our farmer needs is an old lard can from which the bottom has been removed. Let him stand this upright in a sack, fill the can, raise up can and sack, and repeat until the sack is full. As the can contains a little over half a bushel, the same amount can readily be put into each sack. Now let him tie a

label stating contents on each sack. So far as I have been able to learn, no manufacturer of "complete fertilizer" can do more.

It will be well for our farmer fertilizer manufacturer to remember one or two very profound trade secrets. The first is this: If dried blood is mixed with acid phosphate, the mixture is apt to heat and cake. No such trouble is encountered where raw bone makes up a large part of the mixture or where nitrate of soda, fish, cottonseed meal or tankage is used as a source of nitrogen supply.

Let him also remember that muriate of potash, altho the cheapest source of potash, has a bad effect on the quality of potatoes, tobacco and possibly some other crops. When combined with a fertilizer containing ammonia, such as poultry manure or Peruvian guano, it forms a muriate of ammonia, which is also dangerous. For potatoes or tobacco, or for mixing with poultry manure, the sulfate of potash and not the muriate should always be used. If the muriate is to be used, a form of nitrogen supply should be selected which does not contain ammonia in a free state, i. e., nitrate of soda, dried blood, tankage or fish.

It will also be well for our farmer



STAND OF GRASS AT WOODBINE FARM, CRAWFORD CO., PA.
291 Days From Seeding. Sown Aug. 15, 1912; Cut July 3, 1913.

who proposes to mix his fertilizer at home to remember several other simple things:

(1) For grass production on acid soils, "floats" or natural phosphate rock, finely ground, is apparently superior to acid phosphate; but it can not be depended upon for quick results unless the soil is well supplied with vegetable matter, or the "floats" are mixed with stable manure and then applied to the land.

(2) Black, peaty swamp soils are very rich in nitrogen, well supplied with phosphorus and extremely poor in potash. They need little but drainage and a heavy application of kainit. The plants have slowly wilted and the stems rotted off. On many farms the whole crop has been ruined, and the soil infected with disease germs that will make it useless for the growing of the profitable early potato for some years to come. Several of the granges and a large number of individual growers have sent appeals to the State Experiment Station for advice and relief. Some of the farmers are hopeful that the station experts may be able to find a way by which the soil and seed potatoes may be treated to assure the production of future crops.

The symptoms of the disease are those of the stem blight, or stem rot, which attacked many fields in this state a year ago, but the Cobblers in this region seemed largely immune from the disease at that time. Growers were warned by the experiment station experts to treat their seed potatoes with formaldehyde at planting time as a prevention of the disease. Some farmers

This is the whole story. Just as "the three Rs" unlock the whole world

of knowledge, these three, nitrogen, potash and phosphate, unlock the whole secret of soil fertilization. My Wurttemberg friend has not yet thoroughly comprehended this fundamental fact. He therefore insists that "manure is the thing; fertilizer is humbug." But I have hopes of him. Just let him find out that he can be his own fertilizer manufacturer and agent, mixing his fertilizer at home and collecting profits and commissions from himself. When that time comes he will have to look for a new text, for fertilizer will then no longer be humbug.

POTATO BLIGHT IN JERSEY

The Board of Agriculture of Monmouth County, N. J., in one of the greatest potato growing sections in the United States, met two weeks ago on the farm of D. H. Jones, near Freehold, to study the potato blight. A thorough inspection of several fields was made, followed by addresses by Profs. Mel T. Cook and Alva Agee, of the State Experiment Station, at New Brunswick. The consensus of these lectures was as follows: As the season advances it is apparent that the potato blight has brought the worst disaster upon South Jersey farmers that they have experi-

enced since the San Jose scale wiped out their fruit orchards a dozen years ago. Conservative estimates place the damage of the blight at more than half of the total acreage of tubers in the early potato belt, which will probably mean that a little more than a third of the crop will be marketable.

This is an experiment to test the advisability of seeding separately after grain in place of with a grain crop, as has been our practice in years past. This crop justified the extra expense. We will repeat the experiment again this season. This land is in need of lime, but no lime has been used.

Our object is to secure the best possible soils and use the soils to build up the soil. The results look good to us. In this part of the state are many farmers who seed down a piece of land to grass and when they "get a catch" continue to mow as long as there is anything to mow. Then they plow it again, apply 100 pounds of fertilizer, plant to corn or potatoes, and sit around all summer waiting for the Almighty to give them 200 bushels per acre; but the Almighty has got so he lets them wait an awful long time. Under this practice the land produces better crops of devil's paint brush, plantain and wire grass than it does corn or timothy. Verily he that tilleth his land shall be satisfied with bread, but he that follows the methods of his sires shall come to poverty.—J. T. Campbell, Crawford Co., Pa.

NEW SEEDING AT WOODBINE FARM

The accompanying illustration shows a harvest scene at Woodbine Farm, Crawford Co., Pa., just 291 days after seeding. In 1912 this land was in oats, which had been preceded by a crop of corn which was the first crop after tile draining. The oats were an early variety, and as soon as the oats were off the land, the field was plowed about 10 inches deep and thoroughly fitted and leveled, and on August 15 we sowed a mixture of timothy, red and alsike clover, at the rate of 12 quarts per acre. The seed was sown with the grain and fertilizer drill, and 200 pounds per acre of home-mixed fertilizer per acre was applied, the fertilizer being a 3-10-2 mixture. The seed was sown ahead of the drill hose running quite shallow, and the weeder was used as a finish to the land after seeding. During last winter the land received a light application of manure while the ground was frozen.

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Phosphate Production.—Phosphate rock was marketed in the United States last year to the extent of 2,973,332 long tons, valued at \$11,675,774, a slight decrease in both quantity and value, compared with the preceding year. Florida leads with a production of 81 percent of the total output. Tennessee is second with 14.2 percent, and South Carolina third. Idaho, Utah and Wyoming are the phosphate producing states of the West.

Custom Hatching on a Large Scale.

By Frank Kline, Chester Co., Pa.

That the large incubator is no longer an experiment is clearly proven by the results shown and the large numbers of these machines being used on both large and small poultry farms in all parts of the country. About five or six years ago, tiring of the inconvenience of looking after the lamps of the small incubators, I concluded to make inquiries concerning one of the new-type mammoth incubators.

At this particular time the smallest machine made was of 3,000 egg capacity, and the space in which I desired to place it was not of sufficient length. So, after considerable correspondence, I induced the manufacturer to build a smaller machine to hold 2,400 eggs. We ran this the first season with fairly good success, doing better the next season, only to find that the machine was entirely too small.

When we started to build, the ma-

ness. By remodeling and enlarging a building which was not in use, we were able to install the 5,400-egg incubator as shown in the accompanying illustration.

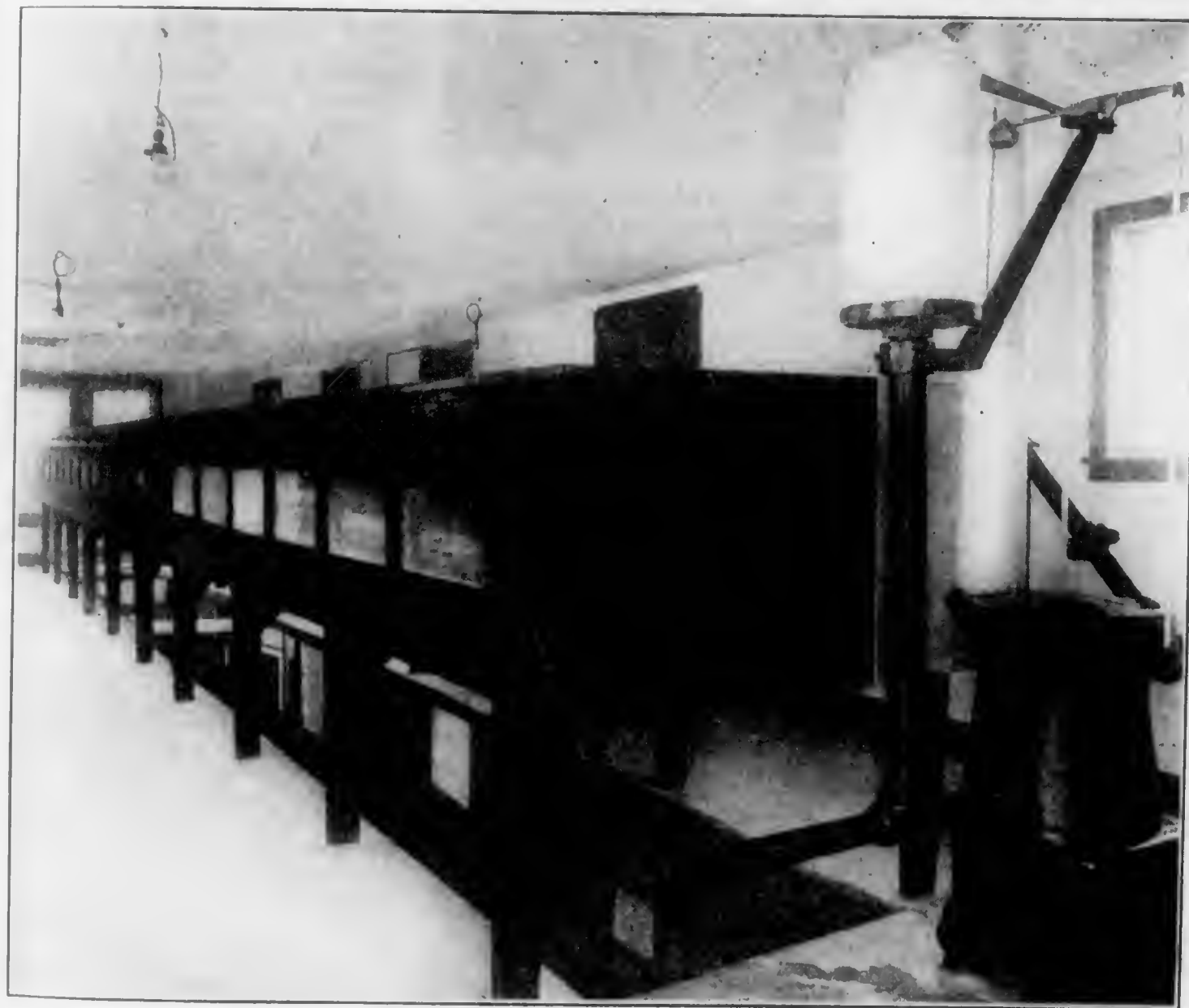
These incubators are usually placed in cellars or special buildings built partly under the ground in order to procure a more even temperature of the room. As I was unable to do this, I placed this machine above ground in a room 12 x 42 feet, providing good ventilation. In the concrete floor I made a depression of two to four inches the entire length of the machine. We keep this floor depression filled with water to supply moisture during the hatch.

This machine is 4 feet and 8 inches wide and 38 feet long, with 18 compartments on either side, making practically 36 incubators of 150 eggs capacity each. The heat is supplied from hot water pipes, 18 in all, running the

Our charges for hatching are according to the number of eggs, or rather, the trays of eggs. Each compartment holds two trays, each tray containing 75 eggs. The charge is \$1.75 for a single tray, or \$3.00 for the two trays or one entire compartment. Thus the price is 2 cents per egg for 150 eggs or more.

The machine is simple to operate. The stove requires a bucket of coal, night and morning, and the ashes removed. When the fire is kept regular, the temperature of the entire machine is the same, 103 degrees. The cost of hatching these 22,100 eggs this season was \$11.50, using pea coal. Our advertising cost us \$230, used in local papers only, as the eggs were furnished by people within a radius of 18 miles. Half of this advertising was to notify our customers that we could not take any more eggs, all the space having been sold at times four weeks ahead. During March and April we could easily have filled a 10,000-egg machine.

The custom-hatching and baby-chick business is only in its infancy. We conducted this business with very little



A 5,400-EGG INCUBATOR, SHOWING HEATING ARRANGEMENT AND WATER TANK BELOW.

Owned and Operated by Frank Kline, Chester Co., Pa.

While people came to us and tried to discourage the wasting of so much money, telling us that we would be unable to procure 2,400 eggs at any time and that the machine could not be heated, as it was too far from the heat. They also made other similar criticisms. To the surprise of our advisers, I was obliged to turn away nearly 6,000 eggs during the season of 1912, being unable to handle them on account of the incapacity of the machine.

In order to accommodate the increasing trade, I added during the winter space and accommodations for 3,000 more eggs to the machine, making the present one of 5,400-egg capacity for use in the season of 1913. I find now that it is again too small, and I was obliged to turn away nearly 5,000 eggs during the months of March and April. In installing this mammoth incubator, my object was to do custom hatching, as we saw that there was a field opening for this branch of the poultry business.

We start the machine January 1 and continue hatching until about June 15. As fast as the chicks are ready to be taken from the machine another lot of new eggs is placed in the compartment, to be turned into chicks in 21 days. The machine is thus practically filled throughout the entire hatching season.

expense. We were kept busy, and could have done twice as much had we had the capacity, and have sold baby chicks. We hatched chicks for other breeders and shipped them as far east as Maine and as far west as Kansas, at 50 cents and \$1.00 per chick. Many of the different breeds were sold from the machine at 15 to 25 cents each. Many breeders who sell baby chicks are having their chicks hatched at custom hatcheries at 2 cents each, which they consider much cheaper than to invest in and bother with small lamp incubators.

Poultry Shows.—In connection with the Gloucester County Grange Picnic, at Altyon Park, N. J., August 13 to 15, a poultry show will be held. There will be no entrance fee. Liberal premiums will be awarded and the judges will be men of national repute. At a meeting of the Ocean County Poultry Association, December 11 to 13 was fixed for the annual show. The head judge will be F. V. L. Turner, of Philadelphia.

DON'T BUY

12-12 or 13 per cent Rock Phosphate when we can sell you 14 per cent Rock Phosphate, containing 20 pounds of Phosphorus at practically the same cost as the low grade. Get our prices and we will get your business. Farmers' Ground Rock Phosphate Co., Mt. Pleasant, Tenn.

SAVE MONEY BUY FINEST
All leathers and SHOES \$2.95
styles. Well known makers' samples, worth \$4.50. Satisfaction guaranteed or money refunded. Frequent by Parcel Post. Send for cash saving catalog. BERLER SHOE CO. 714 Tribune Building, New York.

Well-Paid Positions

IN AGRICULTURE, SCIENCE AND ENGINEERING WAITING FOR TRAINED GRADUATES OF THE

Maryland Agricultural College, Dept. P, College Park, Md.

Assistant Shepherd Wanted, single, one who can help with the feeding and trimming as assistant to Dan Taylor.

Herdsmen Wanted, a capable man, single preferred, who is a good herdman and understands handling of Jersey cattle and who is acquainted with the Harewood test and feeding for the register of Merit. Address Henry L. Wardwell, Pinehurst Farm, Box 2, Springfield Centre, N. Y.

STRAWBERRY PLANTS
For August and September planting. Fruit trees. CATALOGUE FREE. HARRY E. SQUIRES, Good Ground, N. Y.

POULTRY

Gaebel Bros. Stock Sacrifice. Indian Runner trials at half price. An opportunity to get the best, 1st at Madison Square and Philadelphia. This is your chance. Box 82, Morristown, N. J.

Single Comb White Orpingtons, eggs for sale \$1.50 per 15; \$10.00 per 100. Fine pure white birds. The Alta strain. Address ROY CRANDALL, Albion, N. Y.

S. C. WHITE LEGHORNS
500 yearling hens for sale. 75 cents each. PINEHURST POULTRY FARM, Levanna, N. Y.

Collie Pups, the kind that bring the cows. Fine Ducks. Nelson Bros., Grove City, Pa.

1200 BREEDERS FOR SALE
S. C. W. Leghorns, Imperial Pekin Ducks. Cocks \$2.00, Hens \$1.00, Drakes \$2.00, Ducks \$2.00. We are offering the above stock to make room for our young stock. These birds are excellent breeders. Pen-Y-Bryn Farm, P. A. Timony, Sup. L. B. 306, Ambler, Pa.

CHICKS

S. C. W. Leghorns, 70 each. Will ship C. O. D. Will return money for dead ones. Pamphlet on chick feeding free. C. M. LAUVER, Richfield, Pa., Box 43.

FARMS FOR SALE

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Horticulture

THE NEED OF CARE IN TREE CULTURE

Unlike most other crops, a mistake in the management of trees covers a period of many years, and the loss resulting from one false step means an annual loss, increasing as the tree grows older. Instances of this are so numerous and so frequently at hand that attention must be called to the necessity of care in any orchard operation. So much or chard injury is annually done by care less or ignorant orchard managers that fruit growers point to this phase of the fruit situation as an argument against the possible future overproduction of fruit. While this is encouraging from the standpoint of future orchardists, it is a great reflection on the present growers, and some effort must be made by demonstrators and by orchardists themselves to check this needless loss if our present orchards are to remain profitable.

Not long ago our attention was called to an orchard which had been treated for peach curl. The trees showed an unthrifty condition. Early in the spring, the leaves began to show a yellowish color, their shape was abnormal and suckers developed along the main branches. Here clearly was a disease of some sort and one that demanded immediate attention. Because the trouble was first noticed in the spring, and the leaves were somewhat curled, the grower at once decided the trouble was the result of peach leaf curl and gave an application of 4-5-50 bordeaux mixture, in the vain hope that the trees would soon regain their normal growth.

At the end of June it required only a hasty survey to determine the fact that rather than leaf curl the orchard was well infected with "yellows," and the owner was still not aware of the true condition of things.

It is hard to imagine how any grower could mistake these two diseases, since the great amount of literature that has been written about them is so readily available. That orchard is now beyond hope and the owner has lost thousands of dollars thru ignorance.

"Peach yellows" has certain unmistakable symptoms, such as a yellowish color of the foliage, the production of short suckers, the narrowing and sharp pointed shape of the leaves and the effort to produce an enormous and premature crop of small, highly colored fruit. When these conditions are found no amount of spraying will save the trees. There is but one course to pursue, and that is immediately to remove the tree and burn it, so that further spread of the disease will be checked.

Another case of serious orchard mismanagement was recently brought to our attention when a grower asked us to look over his trees and determine what was causing the unthrifty condition which was so apparent. The trees were peaches, three years old, and up until this year had made a vigorous growth. The foliage was scant and an unhealthy color; suckers were being pushed out, and in many ways there were evidences of "little peach." The grower believed this to be his trouble, and not being familiar with the control measures for that disease, wanted advice as to what course to pursue.

On close examination, it was found that many of the symptoms of "little peach" were wanting, chief of which is the peculiar rosette formation of the younger leaves. This made it probable that the trouble was from some other

source, and since the trees were free from borers, root gall was next considered. Two of the trees were dug up, and the roots were found to be clear and free from blemish, so that the results noted must be from still another cause. The grower was closely questioned as to the treatment the trees had had from the time of planting. Every step taken seemed rational and according to the principles of modern fruit culture. But the grower mentioned the fact that he had painted the base of



SIX-YEAR-OLD APPLE ORCHARD UNDER CLEAN CULTIVATION.
Repp Farm, Gloucester Co., N. J.

trees one year ago to protect them from borers, mice and rabbits. When asked what the paint was made from, it was found that he had used a mixture of white lead, straight scale and paris green. He had reasoned that the white lead would keep the borers away, the scale would have some fungicidal value, and the paris green would prevent injury from mice and rabbits. The trees were examined again, and it was found that the bark tissue near the trunk had been so injured and destroyed that rot spores had gained entrance, thrived and had girdled the trunk, thus cutting off the sap supply to the body of the tree.

Without the consultation of a chemist

great that the infection would be carried to them. The same point is true with the man who neglects San Jose scale, bud moth, tussock moth or any of the insects or diseases which spread so rapidly from one orchard to another. He becomes a public nuisance, and not only endangers his own business but that of others.

All of these instances of ignorance, carelessness or neglect point to the necessity of care and a more thorough intimate knowledge of pest control. Many growers are found who can maintain their soil fertility, prune their trees properly and market their fruit, but few are seen who realize the seriousness of the disease and insect situation and who



172 BUSHELS OF ONIONS FROM ONE-SIXTH ACRE.
Grown by Wm. H. Miller, Venango Co., Pa.

to learn what effect the mixing of these ingredients would have, or without asking the advice of a horticulturist, this grower had applied a mixture on the spur of the moment which had destroyed his trees. He had lost sight of the fact that a peach tree is a very tender plant and is extremely susceptible to adverse conditions, and had made a false step which was very costly. The white lead or the paris green alone would probably have caused no injury, but the undiluted scale was strong enough to destroy the bark tissue and thus cause the damage.

These are the blunders which annually

are prepared to check outbreaks when they occur.

Let us use more care in treating our trees, and before making any steps be sure that it is a safe and proper one. Let us be better informed on the many pests which threaten the health and life of our trees, and let us determine that we shall not only control these things in our own orchard, but that we shall not allow our neighbors' property to be menaced thru our neglect or ignorance. Then we shall have better orchards, better harvests and better neighbors.—L. Wayne Army, Bucks Co., Pa.

Pennsylvania Farmer

August 9, 1913.

PROFIT FROM SMALL ONION PLOT

The accompanying illustration shows a part of our onion plot, which proved very profitable the past year. We had about one-sixth of an acre, from which we raised 172 bushels. We have been growing onions on this plot for a number of years. It has never had barnyard manure or green manure of any sort, but is fertilized literally with commercial fertilizers. About 400 pounds of commercial fertilizer was used on this plot last year.—Wm. H. Miller, Venango Co., Pa.

DISEASES OF POTATOES

While a comparatively small state from an agricultural standpoint, because of its area of but little more than 7,000 square miles of land, nevertheless New Jersey produces annually potatoes of an average value of about \$5,000,000. In certain sections, for instance, Freehold and Mullica Hill, the potato is the main money crop for a great majority of the farmers, and so good is the soil and so intelligent are the methods of cultivation and fertilization that entire fields yielding from 350 to 400 bushels per acre are no uncommon occurrence.

During the summer of 1912, the New Jersey Agricultural Experiment Station at New Brunswick, received many complaints concerning a shortage of the potato crop, owing to the dying of plants thruout the fields. Many growers supposed their trouble to be caused by insects or worms which they found in the plants, but later investigations proved this to be incorrect. Examination of plants from different parts of the state indicated that most of the trouble was due to the stem blight. Dr. M. T. Cook, State Pathologist, and his assistants, went over the ground pretty thoroughly, and as a result issued the following precautions to growers: (1) Examine seed to see that the tubers are free from scab, cankers and other indications of disease or rot. (2) Examine the potatoes as cut for black streaks, spots or other discolorations and throw out all that show indications of disease. (3) Treat all seed potatoes with formalin (1 pint of formalin in 30 gallons of water) for two hours. The crates, bags and other containers should also be treated with formalin. This treatment is of little value if the soil is already infested with any of the preceding organisms of disease. (4) Rotate crops, but do not use tomatoes or egg plant in this rotation.

The chief diseases which affect potatoes are stem blight or rot, black leg, the European wart disease, scab and foliage blight.

Stem blight or rot is caused by a fungus, *Fusarium oxysporium* (Schlecht), which is also the cause of the dry rot in storage. It is very widely distributed and probably occurs wherever the potato is grown. The affected plants usually show indication of the disease when 10 to 14 inches in height; the plants gradually lose the bright green color; the leaves gradually wilt and roll inward; the lower leaves are the first to die; the stems finally fall and the underground parts rot and are frequently covered with a white or pinkish growth of the fungus. The first indication of disease in the tubers is a blackening a short distance below the surface, beginning at the stem end; this gradually spreads, sometimes penetrating the inner parts of the tuber. In storage this develops into a dry rot, resulting in discoloration, shrinkage and wrinkling. Potatoes which show rotten spots on the surface or internal discoloration when cut should not be used for seed. Treatment with formalin for scab will reduce

August 9, 1913.

the disease to some extent. The organism will live in the soil for several years. When the soil becomes thoroughly infected with this organism, it is said to be *Fusarium* sick, and is unfavorable for the growing of potatoes, tomatoes or egg plants. Four to five years of crop rotation, using grains, grasses and clovers, will prove effectual in stamping out this disease.

Black leg is a disease which is caused by a bacteria, *Bacillus phytophthonis* (Appel), and is well known in Canada and Maine, and has also been reported from other states. Traces of the disease were discovered in New Jersey last summer, but laboratory examinations failed to prove its presence. The character of the disease varies to some extent with the severity of the attack. The diseased plants are less vigorous than the healthy ones and tend to grow more erect and compact. They finally lose the deep green color and the plant dies. In severe attacks the plants may wilt and die very suddenly. The stem blackens below the ground and frequently for three or four inches above the ground, and usually shows a soft rot. The young tubers may also rot, but the tendency of the disease is upward rather than downward. Potatoes that show rots or bruises should not be used for seed. All seed potatoes should be treated with formalin.

The European wart disease is of a fungous nature. It is well known in many parts of Europe and is undoubtedly more destructive than any other known disease of the potato. It has been introduced into Newfoundland, but is not known to exist in the United States. In severe cases it causes coral-like, scaly nodules, resembling root galls, on the tubers. These growths are irregular in shape, not spongy and do not break off readily. Slightly affected tubers may escape notice, but a careful examination will show that the eyes protrude slightly, due to one or more nodules varying in size from that of a pinhead to that of a pea. The organism, *Chrysophyrtis endobiotica* (Schill.), will live in the soil for several years, and can not be eradicated except by long crop rotation. It can not be controlled by seed treatment. Do not use European potatoes for seed.

Scab is a disease so well known that it is scarcely necessary to mention it. It is caused by a fungus, *Oosporaschizotheca* (Thaxter), and is widely distributed thruout the potato growing districts. The diseased potatoes are easily recognized by the roughened and pitted surfaces. Excessive use of wood ashes, lime and stable manure in the soil is favorable to the development of the disease. The organism will live in the soil for several years, and when the soil becomes badly infested, the grower should use as long a rotation of crops as possible. Seed potatoes should always be treated with formalin.

The foliage diseases are the early and late blight. The former is the more prevalent in the great potato growing sections and may be detected by black or dark brown circular spots on the leaves. These are really a series of circles of black lines which look like a target board. The late blight prevails in the mountainous regions from Maine to Florida, hence does not affect any but the small growing sections. If it comes at all, it comes suddenly without warning, usually when the weather has been cold and foggy. The early blight is controlled by spraying with bordeaux mixture, to which paris green or arsenate of lead may be added. The spraying should begin when the plants are four inches high and be kept up every two or three weeks during the season. This also drives off the flea beetle, which is another pest attacking the potato plant.—D. T. Hendrickson, Monmouth Co., N. J.

Pennsylvania Farmer

FRUIT PROSPECTS

The Fruit Growers' Association of Adams County has issued the following fruit report, based on reports received from the following counties; the correspondents being either the secretaries of county fruit growers' associations or prominent growers. A full crop is indicated as 100 percent.

County	Pennsylvania			
	Apples	Peaches	Plums	Pears
	Percent	Percent	Percent	Percent
Lycoming	100	100	100	100
Berks	60	100	...	100
Snyder	55	85	80	80
Adams	50	90	60	75
Perry	50	60	30	25
Northumberland	55	...	...	...
Union	55	...	...	...
Lebanon	...	100	...	...
Lancaster	50	30	5	10
Lackawanna	40	0	0	10
Beaver	25	10	10	25
York	25	5	...	...
Columbia	25	...	...	...
Bedford	25	...	...	...
Somerset	20	10	10	10
Wyoming	20	50	60	80
Cumberland	10	40	10	50
Luzerne	10	0	0	0
Franklin	10	5	0	0
Cambria	1	0	0	0
Average	36	42	28	43

Maryland.—Apples about 10 percent; peaches, less than 5 percent.

Virginia.—Albemarle Pippins, 75 percent; red apples, 25 percent; general average, 40 percent. Peaches, 30 percent. At Winchester—Summer apples, 10 percent; winter varieties, not over 20 percent. Peaches fair crop; no plums and but few pears.

Ohio.—Full crop Rome Beauty on well-fertilized trees; others about 25 percent. Northeastern section of state practically all killed. Good crop reported in extreme northern section. Very few peaches.

West Virginia.—Owing to severe freeze in May, not over 10 percent of an apple crop; 15 percent for peaches, and not over 5 percent for plums and pears. Western part of state practically blank.

Delaware.—Apples and peaches, 20 percent; very few plums; pears not over 15 percent.

New Jersey.—South Jersey promises full crop early apples; late varieties moderately full. Crop injured in northern counties. Peaches light in most orchards; a few well set. Bartlett pears promise well; Keiffer almost a failure. At Glassboro—Apple crop very poor with lots of scab. Peaches poor. Have good crop Bartlett, Seckel, Duchess, but practically no Keiffers.

New York.—Average for state: Apples, 60 percent; winter apples, 54 percent; pears, 81 percent; peaches, 77 percent, and plums, 59 percent. Reports also give Canada early apple crop and good green fruit crop; red fruit about 60 percent. Connecticut, 75 percent; Illinois, 65 percent; Indiana, 50 percent; Iowa, fall apples, 80 percent; winter apples, 50 percent; Michigan, fall apples, 20 percent; winter apples, 65 percent; Nebraska, 100 percent; Vermont, about 50 percent; Washington, 80 percent; Wisconsin, 100 percent.

Conclusion.—The condition of the fruit in Adams County has never been better than at present. It is well distributed over the trees, and with favorable weather conditions should result in an excellent crop.

C. J. Tyson, Secretary of the State Horticultural Association of Pennsylvania, requests me to extend an invitation to the summer meeting, which will be held in Adams County, September 10th and 11th, to which I wish to add a very hearty invitation from the Fruit

Growers' Association of Adams County.
—Edwin C. Tyson, Cor. Sec.

FOR SICKLY PEACH TREES

Would you please tell me what is the cause of the injury to the inclosed peach twigs, and what I shall do to prevent it?—I. N. K., Lebanon, Pa.

I have received and examined the

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MT. PLEASANT, TENNESSEE.

The Dairy

WHEN DOLLARS ARE AT STAKE

My neighbor had a cow to sell. I liked the looks of the cow first rate and thought very favorably of buying her. She had a good clear eye, a fine body and her owner made me think of a good full pail of milk. Just at the critical moment, however, I happened to think of one thing more. "Is she unruly?"

The farmer, it seemed to me, waited a minute before he answered that question. But when the reply did come, it was definite and honest enough. "Well, now you have asked me that question, I'll tell you. In the fall of the year, when feed gets a bit short, she has bothered me some about getting out. I want to tell you about it now, so that if you buy the cow you will not feel every time you see me, 'There goes a lying scamp!' I would rather not make the sale."

Somehow or other I lost my appetite for that cow, then and there, but I liked the man first rate. He had told the truth when he might have covered the matter up lightly and sold me the cow at a good price. He lost the sale of a cow at the time, but later sold her for all she was worth and he gained a friend.

A little later I was looking for a horse to buy. It is, according to my experience, pretty discouraging business at best, this hunting for a good horse. I was getting pretty tired of it, when I heard of a man who had a mare to sell that seemed to about fill the bill. The farmer was away back in the field at work, and he did not have the mare with him, but I talked with him about her, trying to get a little further information. In the course of my questioning, I asked, "Is she sound?"

It was only an instant before he settled that question for me. "I have owned 40 horses, more or less, and I never saw one that did not have a hole in it somewhere!"

There was the chance to say, "Why, yes, so far as I know she is sound and all right!" And possibly she may have been as good as the average horse in most ways; but when it meant dollars and cents to that man he was fair enough to tell the absolute, unvarnished truth about the matter. I did not go any farther toward that mare. I wanted a good sound horse. Perhaps I would not find it; but surely I did not want to accept a mare whose owner was frank enough to admit that she was not exactly sound. And still I respected the man for saying what he did like a man. He also sold the mare later for all she was worth and he also gained a friend.

My experience with another cow was different. The owner told me she never kicked. I bought her and took her home. Before I even milked her she stood in the barn and kicked both ways, first with one leg and then with the other. She wanted room according to her strength, and her strength was pretty good. She was very handy with her hind legs. She kicked me over a good many times, milk and all. I never thought of that man, or met him anywhere that I did not say to myself, "You lied to me about that cow!"

As a rule I believe men mean to be honest when selling cows or horses. They want to tell the truth, and in most cases they think they do. In fact, most of the lawsuits that come up between farmers arise from misunderstanding and not from actual deception. For that reason it seems to me we might better go very slow about getting into the courts over any such matter as a horse dicker or the pur-

chase of a cow. Better suffer a little and keep your neighbor than to get mad and sue him and feel mad at him all the rest of your life.

There is a chance for us all to do a little bit better than we do in our dealings with one another. We all want to do well in a trade. Money looks good to us—too good many times for our best interests. For the sake of getting a good price we are so apt to "strain a point," and then feel sorry about it afterwards. The sense of right and wrong won't let us forget it, and it is a good thing this is so. When we get so that conscience sleeps right thru a crooked deal, better look out. The train is getting near to the jumping-off place.

And one of the worst things about getting the advantage of a fellow man is that the boys know about it. Wife knows it, too; and who of us want to lose the good opinion of our wives or the boys, or give them their first lesson in dishonesty? You never know where such things are going to lead. Better sell your cows and your horses for just what they are, and take what



CURING HAY UNDER CANVAS.

Much used with early clover and alfalfa.

you can get, than to misrepresent things and go down in your estimation or drag the young folks down.—E. L. Vincent, Broome Co., N. Y.

A STRIP OF CLOVER

Clover is a great and steadfast friend of the farmer and feeder of live stock. There is no end to the good things it does for the land, and its uses in the animal bill of fare are both direct and consequential. Therefore, we farmers have come to have a keen realization of the great value of clover, and a very commendable desire to grow it successfully.

The directions, rules and regulations for growing clover are legion, but to my plain farmer mind all that is needed is well-drained, properly-tilled, good soil and clover seed. I make no mention of lime, altho I am not forgetting it. Perhaps if your land is poorly drained and therefore "sour," you need lime. Perhaps if it is passed over half tilled you need lime. Maybe, if your land is poor and weary in well doing, you may need lime, but while I am not advising, I can venture to tell you in passing that it will never pay to farm that kind of land in that manner.

Fertile land is well drained, has humus, lime, sulfur, phosphoric acid, potash and nitrogen. If any one of these elements be lacking in sufficient quantity to produce good crops, the deficiency should be supplied.

This season I had a strip of clover of which I am rather proud, it being one of the most beautiful patches of clover I had ever seen. The field of which this clover strip is a part has been for a number of years devoting its best endeavors to growing ensilage corn,

alternately with wheat or rye. In 1911 the field was in ensilage corn, on rye stubble, which had eight loads of manure to the acre before being plowed for corn. The manure had been treated with acid phosphate in the stables. The plowing for corn was done well and deeply. The tillage was thoro. During the time of tillage and as part of it, 300 pounds per acre of acid phosphate was drilled—observe, drilled in the tilled land, not plowed down on the sod.

The cultivation of the corn was only reasonably good, as we had more work than we had workers. The corn crop was good for the land is good. After the corn was cut for the silo the land was made fine for wheat sowing with a disk harrow. The continued and chronic scarcity of laborers made the wheat sowing unseasonably late, but at harvest, in 1912, we had a very fair crop.

During the previous winter (1911-12) eight loads of manure per acre were applied. In April, last year, four quarts per acre of clean, vital clover seed were sown. After the wheat was

harvested, there was the clover. It was not pastured, but was clipped with the mower, the bar running high. Last fall, when the wheat stubble upon which the clover was sown was given its eight loads of manure to the acre, the clover strip was given four, largely as a matter of form, or by force of a habit we have of using manure.

Two or three things in this history may be noted—manure is treated with acid phosphate in concrete-floored stables. Manure is applied in moderate dressings often. Manure and phosphate are kept well on top. The clover secured all the benefits of the tillage for the corn crop, the cultivation of the corn and the fine seed bed made on top for the wheat. The light seeding of clover was rather unusual, as the intention was to plow all the field for ensilage corn this spring, but the clover was so eloquent in its well doing that it was not plowed.—M., Lancaster Co., Pa.

FEEDING SEPARATOR MILK

In the dairy districts of New York, separator skim-milk is regarded as the best feed for calves that we can have. It is fed while yet warm to the best advantage, altho it may be fed later. Whatever form it is made use of should be continued. That is, if fed when sour there should not be a change to sweet and back again at frequent intervals. If fed fresh from the separator, the practice should be continued with no change to sour or stale milk. It is the change in condition that proves harmful.

As to the foam, that is not usually regarded seriously, yet it is best to avoid any possible trouble by not feeding it. One very good plan is to have

a tub in which to catch the milk as it comes from the separator, then from the side of the tub at the bottom have a plug to fit a hole from which to draw the milk. As the foam floats at the surface of the milk, the milk drawn from the bottom is free from it and may be fed at once. There is very little that can not be used as soon as separated, and the remainder can be used in a short time. This cleans up the whole lot and has it out of the way, utilizes it while at its best, and while yet warm from the cow, if it is desired to separate as the milking progresses.—H. H. Lyon, Chenango Co., N. Y.

KEEPING MILK SWEET

The sour milk problem is no small one for those who are selling milk, especially during hot summer weather and when there are no extra facilities for taking care of it. While it is necessary to be as careful as possible in winter, it is even more so in summer.

One of the first precautions is to keep all milk pails and dairy utensils strictly clean and sweet. As soon as the milking is done the pails should be washed thoroly in lukewarm water, containing some good washing soda. Ordinary baking soda is good for this purpose. The soda cuts the grease, brightens the tin and helps to kill any sourmilk-producing bacteria present. Even when soda is used the scalding process must not be neglected. A place should be provided for exposing the tinware in the sun during the day as an additional precaution.

Sour milk is often caused by unclean cans returned from city dealers. A can may be apparently clean, yet filthy with bacteria unless it has been sterilized. During unfavorable weather it is best, at least to scald the cans, even if they seem clean when returned. Crevices around the top and bottom should be examined to see that there is no sour milk collected there.

While it is important to have clean utensils it is just as important to cool the milk and to keep it cold to prevent sour milk germs from developing. It is best to cool the milk as soon as possible by running it over the aerator, instead of letting it set in pails or cans while the other cows are being milked. It should be cooled to as low a temperature as possible at first, preferably by the use of ice when this is available. Good cold well water, however, answers the purpose if plenty of it is used.

The next step is to keep the milk at a cold temperature, which is best accomplished by setting the filled milk cans in a tank of cold water. A cold cellar, while it makes extra work in carrying the cans up and down stairs, can sometimes be used to advantage. A covered tank in which ice can be kept is the best and in the end cheapest. Another excellent place for keeping milk until shipping time is down a well. An apparatus for lowering the 40-quart cans and for raising them can be constructed easily. Down there the milk can be kept sweet for days, and providing there are no foul odors in the well, it is just as good as an ice tank.

Sour milk is caused not so much by its age as by the way in which it is handled. For this purpose less trouble is experienced with old milk when properly handled, than with fresh milk not thoroly chilled before shipping. It is best to keep morning's milk until the following day or at least night, if it can be kept under proper conditions, than it is to ship it the same day when it can not be cooled properly. By the former way control of bacteria is gained at once.

Economy should be practiced in buying the best type of cooler, this being the cheapest in the end, altho it may cost more at first. With the best

coolers where the milk runs down over broad corrugated surfaces it is cooled to practically the same temperature as the water, and many of the undesirable taints are removed in the same process. The water circulates from the bottom up, and as the milk becomes gradually cooled it keeps coming in contact with colder and colder surfaces near the bottom of the cooler, while the



GOOD TYPE OF MILK COOLER.

water as it circulates upward is gradually warmed. It is very important, however, that the cooler be located in a room where the air is as free from dust and impurities as possible. Aerating exposes the milk to the air, and if this air is not pure, the milk may take up additional germs from this exposure.—L. J. H., Erie Co., Pa.

THE CONCRETE SILO WILL SERVE TWO PURPOSES

The silo is no longer an experiment. No dairy farm is complete without one. It is just as important that it be properly located and constructed as any building on the farm, and that it be made durable and of long life. The time has passed when a silo should be built of material that will only last about 10 years or less.

A concrete silo can be built for a little more cost than most other kinds, but if the materials are of the proper kind and thoroly mixed and reinforced with iron it will be practically everlasting. Such a silo can be made to serve a second purpose—that of a tower for a water tank. When the silo is as high as is needed, put a reinforced top on it, then extend the side walls about four or five feet higher and you have a better and cheaper water tank than you can get in any other way. You have the two structures on one foundation, one roof, in one-half the space, a better elevation, wind proof, close to the barn and giving good fire protection. Think it over and see if it does not appeal to you.—Dr. M. E. Conard, Chester Co., Pa.

RABIES IN CATTLE

Veterinarians are very frequently asked as to the practical dangers from milk, blood, or saliva of rabid cattle. The experience and observations of many authorities indicate that there is slight, or almost no risk, from milk consumed in the ordinary way. It is conceivable that milk from a rabid cow might produce rabies in case of a distinct injury or abrasion of the mucous membrane lining the mouth, stomach or intestines. It might be possible, also, for such milk to prove dangerous to very young infants, on the theory that

the mucous membrane lining the digestive tract of the infant is less resistant to germ infection than in case of older people.

Actual experience shows, however, that such infections, either from milk in connection with an abraded mucous membrane or when given young infants, must be exceedingly rare.

It has been shown by experiments, that dogs may be fed the brain of a rabid dog, or milk from a rabid cow without harm; but if broken glass, for example, be mixed with the feed, so as to scratch the lining membrane, then rabies may be produced in the dog by such feeding of either brain or milk. Sanitation officers are quite generally agreed in the view that the danger from consumption of milk is not of much practical importance. It happens occasionally that people use milk from a cow that is developing rabies, before they know what is wrong with her. Of course, no one would use milk from a cow that was evidently rabid.

Experiments have shown that the danger from virulent blood is exceedingly variable. If thoroly dried for two or three days, it loses virulence to such an extent that it is probably not dangerous. However, if blood or brain substance in any considerable quantity remains frozen, it will retain virulence for a long time. It is found that such material does not retain dangerous virulence at room temperature more than two or three days after it has been thoroly dried.

There is ordinarily little or no danger from saliva around the cow yard or straw pile, because the virus is destroyed by the sun, or dried by the wind, and because the chance of infection by inoculation is so slight. Saliva may become virulent from four to ten days before the animal shows symptoms.—M. H. Reynolds, Veterinarian, Minn. University.

DIGESTIBLE PROTEIN PER ACRE

By careful analysis it has been found that alfalfa yields 875 pounds of digestible protein per acre, as compared with 491 pounds in clover. This is a

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ALFALFA	875 LBS
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OATS & PEAS	350
CORN ENTIRE CROP	300
BAGAS	279
MANGELS	232
TIMOTHY	223
SUGAR BEETS	213

very remarkable showing in favor of alfalfa. Protein is the most essential element in feed stuffs, therefore, it will readily be seen how valuable alfalfa is compared with clover, oats and peas, corn or timothy.—I. H. C.

Udder Troubles.—Inflammation of the udder in cows is often infectious and can be carried from the affected parts to healthy members of the herd on the hands of the milkers. A good practice to follow is to segregate any animal showing disease of the udder until it has recovered. The milker should wash and disinfect his hands after milking such a cow.

Record Calf Price.—Probably the largest price ever paid by a farmer of Madison County for a calf was paid by M. G. Spooner, of Madison, N. Y., to Stevens Bros. for a four months' old bull calf, the price being \$2,000. The calf is a son of King Pontiac and his dam has a butter record of nearly 28 pounds, and he is a half brother of the 44-pound cow, which holds a world's record.

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Live Stock

NO PROFIT IN BEEF FAT

It costs a farmer 25 cents a pound to produce fat. This fat he sells for about one-third of that price. All the fat that a butcher can not dispose of to the housewife who buys it over the telephone without seeing it, he sells as raw tallow for about five cents a pound. These facts were gleaned from an address by President Waters, of the Kansas Agricultural College, before a recent meeting of cattle feeders.

It's a Waste.—"The fat on a steak or roast which the family will not eat," President Waters said, "finds a place eventually in the garbage can or in the 'tummy' of the family cat." Thus, fat-making on the farm, which takes the best product on the farm—corn and alfalfa—is an expensive and losing business. This loss involves the farmer, the butcher and the consumer, especially if more fat is put on a steer than is necessary, or if the steer puts it on the wrong place. The scrub steer and the dairy breeds have a



A BUNCH OF PROMISING YOUNGSTERS.
On C. Bosley Littig's Farm, Harford Co., Md.

strong tendency to store their fat inside the body cavity, as, for instance, around the kidneys and intestines, where it does not improve the appearance of the animal and adds very little, indeed, to the value of the carcass. Fat is more nearly wasted when disposed there than in any other place on the body. It is only when the fattening process has been carried to a considerable length, or when these animals have been fed a long time, that they store much fat under the skin and between the muscles. It is particularly late in the fattening process when they marbled the meat by storing fat inside the muscles, and then in relatively few parts of the body.

The ideal beef animal would be one which would marbled its muscles well by the time it had covered the outside of its carcass with an even layer of fat not more than one-half inch thick, and had stored the minimum quantity of fat in the body cavity, where it serves no good purpose to feeder or packer.

The market demands a carcass covered evenly but thinly with a white and firm fat, and at the same time a carcass whose lean portion is thick and which has stored enough fat between the muscles and inside the muscles to make the meat stand up well in the shop and give it richness and juiciness when cooked.

Why a Steak is Tender.—A beefsteak is juicy and tender and highly flavored when it carries plenty of fat, or in other words, when it is properly mar-

bled with fat. Fat which is high priced to make can be sold profitably when put inside a steak or roast. Furthermore, it will be eaten and will add joy to those who partake of it. Stored around the kidneys or intestines, or piled in rolls on the rump or rib, it is nothing more nor less than tub tallow and waste.

"It is the lean meat we are striving for," said President Waters. "Only so much fat should be with this meat as is necessary to give juiciness, flavor and tenderness. Any fat in excess of this is a waste of the feed required to produce it. This is especially true of cattle and sheep, but is not altogether true of swine because of the large value for cooking. This is not due, as is popularly supposed, to the low nutritive value of fat compared to the lean, for quite the opposite is true, but because the fat, except in small quantities, and when well distributed with the lean, is not palatable and will not be eaten. Unlike butter, for example, it will not be eaten alone, or with bread. Mutton and beef tallow are not extensively employed in cooking, as is the fat of the hog."

Coming down to the remedy for the

Sulfur rubbed on the skin of a hog affected with mange or scurf will clean him up. The sulfur kills the mite beneath the scurf and causes it to become loose and fall off. Sulfur is a good thing for a hog, both inside and outside.—V. Ross Nicodemus, Bedford Co., Pa.

The Best Cross.—"No matter how skillful a man may be as a breeder," President Waters said, "if he fails to feed properly his animal will revert to the original or unimproved type. They will be narrow, tall, long-legged, and sloping at the rump, instead of straight, flat-ribbed, heavy in the foreparts, and light in the hind quarters, just the type which, as a feeder, he may be trying to make."

"The best cross possible to make is between a well-bred animal and a well-filled grain bin. At the foundation of the best progress in animal improvement is a clearer knowledge than we now have of the limitations of heredity and nutrition in their influence upon the mature animal, and a definite knowledge as to whether the deficiencies of one may, to any practicable degree, be supplied to the other. It does not matter that the breeder and the feeder are in many instances one. Feeding and breeding are independent operations."

"We should then have much less waste of effort thru attempts to accomplish with feed those things which may alone be accomplished thru breeding, and by trusting to pedigree those

things for which the feed bin alone is responsible. It is an old theory, but one which is well sustained by experience, that both contribute in an important and indispensable way to the final result, and that a really good race of animals can not be developed, or the excellencies of a highly improved race maintained, except thru a rational system of mating and a correct system of feeding."—Kansas Industrialist.

SULFUR FOR PIGS WITH SORE EARS

I, too, have had considerable trouble with pigs having sore ears. Last summer I grew rafe for pasture. This plant is very poisonous to pigs' ears when wet or when the dew is on. In fact, one must simply keep the pigs away from this plant when it is wet.

I have found a corrective, however, which in my experience has proved to be a great help in overcoming this trouble. Get some flowers of sulfur, and when the pigs are at the troughs eating, or better still, catch them, and rub the sulfur on the affected parts. A few applications of this corrective will dry up the sore and effect a speedy recovery.

Sulfur rubbed on the skin of a hog affected with mange or scurf will clean him up. The sulfur kills the mite beneath the scurf and causes it to become loose and fall off. Sulfur is a good thing for a hog, both inside and outside.—V. Ross Nicodemus, Bedford Co., Pa.

HOGS AS A SIDE LINE

The potato growers and truck farmers in South Jersey have demonstrated that of all animals the pig is the most economical for converting seemingly waste products into marketable commodities. These farmers are marketing their small potatoes and fruit culls thru the porker. The increased acreage devoted to the growing of alfalfa is still another boom to swine growing, as it has been determined at the state experiment station that alfalfa is a much more desirable source of protein for swine than digester tankage, which is the most economical source of this element on the market. Furthermore, the alfalfa is a home-grown product. With the serum treatment available for preventing serious outbreaks of hog cholera, the greatest drawback to swine production is removed, and the rent-paying rooters are sure money makers.—D. T. H.

Western Cattle Conditions.—Cattle have not been marketed recently as liberally in Chicago as a few weeks ago, and this has helped to bring about better conditions for sellers, but it can not be said that the consumption of beef is showing any signs of increasing. Hence, it is of the utmost importance that the receipts of cattle be held down to moderate proportions in order to hold prices where they are. Distillery-fed steers are being marketed rather freely, and grassy cattle are comprising an increasing percentage of the receipts, with especially large numbers going to the Missouri River markets.

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Large Berkshire Swine, Registered High grade. Prices reasonable. Write HOME FARM, Center Valley, Pa.

Large Berkshire fall pigs, either sex, also booking orders for early spring pigs, reasonable prices. FRANK BLUM, R. 2, New Washington, Ohio.

Duroc Jerseys—Champion herd at W. Va. Pa. N. J. State fairs, 1912. Booking orders for spring pigs. R. B. Martin, Mount Mills, W. Va.

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Oldest breeder in the State. Pedigreed stock for sale. SAMUEL JOHNS, Wilmington, Ohio. Sec. D.

ALFALFA LODGE YORKSHIRES, short nose type. Trios unrelated. Special sale—Bor pigs. ten dollars. John G. Curtis, Rochester, N. Y.

Registered Chester White Pigs and Jersey Bull Calves FOR SALE. J. A. BARK, R. D. 4, New Castle, Pa.

Poland China Spring Pigs—Good ones, \$15 each, if ordered between now and Aug. 10. Out of litter of 11. B. F. Moore, Jr., East Fentonham, Ohio.

Cheshires—Ready for market any day but never in fat. Have you tried them? W. W. Card, Sylvania, Pa.

Cheshires—Gilt and sows bred. Pigs from mature stock of best type and breeding. Prices reasonable. G. E. Smith, Canfield, N. Y.

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August 9, 1913.

Grange

NOTES AND COMMENTS

Thank God every morning that you have something to do, being forced to work, and do your best.

'Twill breed in you Temperance, Self-control, Diligence, Strength of Will, Content and a hundred virtues which the idle will never know.—Kingsley.

I had to sit for two hours the other day in a car-seat beside a man whom I set down as a chronic fault-finder, and he did not seem to have the valid excuse of being a dyspeptic either. Everything was wrong and going straight to the demitition bow-wows. There was not an honest man in all the world, no, not one! Every official was a grafter, and every business man a highway robber, and he finished by declaring the farmers to be a lot of mercenary skin-flints. Now, I did not feel resentful when he made the last assertion. In fact, I was rather glad he added it. I do not want to feel that we are in a class so different from the rest of the world. I was really relieved when he picked up his satchel and umbrella and left the car. Think of it. A hundred miles of spleen! I looked out the car window and was delighted to see the sun was still shining and the grass still green.

That man is to be pitied in whose character the milk of human kindness has turned sour and whose main stock in trade is invective and adjectives. Every man should, early in life, establish a censorship over his thoughts and speech. When they begin to be too harsh and critical; when he finds there is a tendency to chronic fault finding and uncharitable criticism, he should strive to get another viewpoint before his character is permanently warped. Reformers are always needed, but a common scold is not a reformer; rather, a deformer.

a visit to old New England is well worth while.—R. P. Kester.

ROAD BOND AMENDMENT

I am opposed to the bonding of the state for good roads. First, it gives too great an opportunity for graft. Second, it is shunning payment of our debts by passing them on to our children. Third, if our present road laws were efficiently administered our road problem would be largely solved.

I say it gives too great opportunity for graft. New York has had a trial of it. In that state nearly \$100,000,000 has been spent for roads in bonding. Some roads have been built, but a large proportion of the money has gone into officers' salaries, overpay to contractors, or has been wasted in mismanagement. Can we expect anything different here? We still retain memory of the State House graft. Money that was made available in large quantities went into the pockets of men associated with the builders and furnishers.

The bond principle is positively dangerous in this connection. The state sets the example of borrowing money for present use and leaves payment to future generations. The bonding system is justifiable only when we create something that will be of great value to future generations as it is to us, and in which the generation that pays gets the full value of the investment. This is not the case with roads that require constant rebuilding. Future generations would be justified in repudiating such a debt.

I claim that if our present road funds were efficiently administered our roads would be 100 percent better than they are today. The policy of our road department appears not to have been how well and how much road can be built with the funds available, but how much can we divert from the public funds without becoming legally involved. In other words, how much money can we spend with the least service.—J. Franklin Fretz, Bucks Co., Pa.

McSPARRAN'S GRANGE NOTES

Get Awake for Parcel Post



A very dangerous resolution has been introduced in the United States Senate by Senator Bryan. Those who have followed the fight for parcel post will remember that the present law was looked upon as simply an entering wedge. The rates charged were exorbitant and the weight limit ridiculously small, and yet it was quite a victory for those who wished for real postal reform because of an amendment that was put in the bill by which the question of rates, zones and weight limits (indeed practically the whole subject) was put under the discretion of the Postmaster-General.

While Mr. Burleson is very conservative (too much so, we feel), yet the changes he is making are in the right direction in the main. As was to be expected, the express companies would watch every chance to cripple or destroy the infant parcel post. The resolution referred to is to repeat the administrative feature of the law by which the Postmaster-General can develop the system until it is full grown. This is the most valuable feature in the present law, and to have that stricken out would practically put the whole question back in Congress, with the usual uncertainty and delay attending such action. This would be a disastrous setback.

The speed attained in reaching real postal reform is indeed slow enough even where it is given the advantage of direct action, and it would be practically the death knell of the proposition to attempt to put these administrative features into a legislative body. The resolution is especially dangerous because of the fact that an argument can be made against the idea of giving so much authority into one department of government, and while in this case there is very little logic in such an argument, yet it offers an excuse behind which the enemies of an up-to-date parcel system can hide and, if passed, the constructive work of many years will be practically destroyed.

The friends of postal reform must waken up and see to it that this resolution is defeated. The grange has taken an active interest in what has been accomplished so far, and it is now the duty of every grange to arouse an active public sentiment in the several communities, and every wide-awake citizen should lose no time in writing his United States Senators to do all they can to defeat this proposition. No time should be lost.

It is just in this way that special privilege has so often defeated the will of the people, and we hope that in this case there will be enough wide-awake citizens to prevent a single backward step in the advance toward a full and complete system of postal express adequate to present needs.—John A. McSparran.

Grange and Temperance.—It appears that the hotels of Bangor, Me., would not give reduced rates to the State Grange for its annual session because their bars would have to be closed. One of the local papers printed an article which gave the impression that the hotels would give reduced rates if they could keep their bars open. This called out State Master Stetson, who says that the Bangor hotels do not anticipate receiving such patronage from members of the order. "In the 20 years that I have attended the State Grange meetings," he said, "I have never seen any member of the order en-

tering or leaving any place where intoxicating drinks were sold or under the influence of drink. I do not believe that the hotels would receive any additional revenue from the members of the grange if every one in the city ran open bars while our organization was in session there."

New Granges.—Pennsylvania Leads.—According to the report of National Secretary Freeman there were organized between April 1st and July 1st, 97 new granges, and 6 were reorganized. The largest number of new granges are reported for Pennsylvania, viz. 12. Nebraska reports 11, Kansas 9, Massachusetts 8, Wisconsin 7, Washington and Ohio 6 each, New York 5; Minnesota and Wyoming 4 each, Iowa 3, California, Connecticut, Indiana, Michigan, Missouri, Montana, New Jersey and South Dakota 2 each; Maine, Oregon and West Virginia 1 each. Washington reorganized 4.—California and Pennsylvania 1 each.—J. W. Darrow.

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A Poor Razor and a Good Strop is Better than a Good Razor and a Poor Strop. Your razor, no matter how good or expensive, is no better than your strop, and few men know how to strop a razor. This device will keep any razor, old style or safety, in perfect condition and insure a clean, cool shave. No special skill required; anyone can use it. The regular price is \$2.00, but we will send it, postpaid, for only \$1.00, or with Pennsylvania Farmer 1 year for \$1.40; 2 years, \$1.75; 3 years, \$2.00; 5 years, \$2.60; or the strop sent free for only 3 yearly subscriptions to Pennsylvanian Farmer at 50 cents each. PENNSYLVANIA FARMER, 214-18 South 12th St., Philadelphia, Penns.



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will not be responsible for cash sent in let-

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RATES OF ADVERTISING

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sertion.

No advertisement inserted for less than 45

cents per insertion.

No deceptive, immoral or swindling ad-

vertisements inserted at any price.

Beginning October 1, 1913, rate will be

20 cents per line, or \$2.80 per inch.

Philadelphia, Pa., August 9, 1913.

The controversies fol-

lowing the recent sign-

ing of appropriation

State bills by the Governor

Appropriations merely emphasize the need of a better

system in apportioning money for state

expenditures. The wholesale slashing

to which the several bills were sub-

jected was inevitable; yet every inter-

est hoped and demanded that the cut

be made on the other fellow. The pro-

tests and denunciations that have gone

up since the bills were signed were to

be expected. Many of them, no doubt

represent the honest convictions of

those who were not able to get all they

had hoped for from the state's funds.

More, however, are voiced for political

effect and are as unworthy of consid-

eration as they are unavailing in re-

sults. But mingled with these protests

are charges, that, while they may be

groundless, at least point to possibi-

ties of grave importance in our meth-

ods of handling state appropriations.

Under our present system, and as

handled this year, full responsibility

can not be laid upon any single of-

ficial or group of officials. The legisla-

ture lays all responsibility on the Gov-

ernor, and the Governor as logically

places all blame on the legislature.

Each has an alibi, and the people take

what is given to them. This "system"

opens the way to bartering promises

in the legislature which is perfectly safe

so far as fastening responsibility is

concerned, and particularly effective in

securing votes on desired legislation.

It is easy to promise patronage for

needed votes, if it is known that such

patronage can be cut off later under

the plea of lack of funds. Just to

what extent this practice has been fol-

lowed can not be definitely known, but

the charge is common, and the possi-

bilities are obvious.

Late news dispatches indi-

cate that Congress has post-

poned its fight upon the

authority of the Postmas-

ter-General over parcel post regulations

for the present. The effort to cripple

the service came in the form of a resolu-

tion to annul the power of the Post

master-General in making changes in

rates and regulations in parcel post,

and to delegate that power to Congress

Pennsylvania Farmer

August 9, 1913.

The resolution was introduced by Sena-
tor Bryan, of Florida, and it appeared
to have gained considerable support,
particularly in the Senate postoffice
committee. The question was not one
of the rights of the postal authorities
under the present law, but an attempt
to change the law to give to Congress
the control of the vital features of the
service. On July 31, however, the Post-
master-General announced that after
the changes scheduled for August 15
went into effect, no further alterations
in parcel post regulations would be
made until present rates can be more
thoroughly tested. The Senate committee
then agreed to postpone action on the
Bryan resolution indefinitely. Thus the
enforcement of the changes announced
is practically assured, but the restraining
resolution remains as a constant
menace to future development. The
motive behind the Bryan resolution
and its backers can be attributed to the
express companies and railroads alone.
The parcel post service has been im-
mensely popular, and apparently every-
one outside of Congress and the express
people is well pleased with the changes
made and announced. The steady in-
crease in the use of the service, which
Mr. Burleson estimates will reach 300
million packages by the end of the
present year, is sufficient evidence of
the need and popularity of the service.
The dangers in delegating the control
of this service to Congress are very
well pointed out in the article on page
9 of this issue. The people worked
long and persistently to secure the
passage of the law, and they are fully
satisfied with it in its present form.
While the danger of its repeal along
the lines of the present effort can never
be entirely removed, it should be im-
pressed upon the members of Congress
that any further effort to interfere will
meet with a most determined protest.

The farm counsellor service under the direction of
the State Department of
Agriculture is a new func-
tion in state government. The Depart-
ment has long served as a bureau of
information on many lines of agricul-
tural matters, and many requests for
instruction and suggestion on general
crop and farm management questions
are annually addressed to it. These
queries have usually been handled by
correspondence by the Department of-
ficials or referred to experts who made
reply by mail. The new service pro-
vides a staff of counsellors to give per-
sonal attention to such calls. The ten
counsellors, whose appointment was
announced in last week's issue, are to be
at the service of the farmers of the
state at all times. There are two coun-
sellors to give attention especially to
problems in crops and soils, two in
dairying, two in poultry work, one in
horticulture, one in drainage, one in
home economics and one in co-opera-
tion and marketing. Any farmer in the
state who desires counsel or advice in
his farm work may address the Depart-
ment of Agriculture, at Harrisburg,
and one of the counsellors, in whose
line of training and experience the re-
quest falls, will visit the farm, go over
the work with the farmer and give the
full benefit of his counsel on the prob-
lems presented. The appointees are
well-known institute instructors, with
one exception, and all have the advan-
tage of years of practical experience
and a wide acquaintance with general
agricultural conditions in the state. In
their institute work they have had the
opportunity of becoming acquainted
with the leaders and the best farm
practice in the state. This experience
alone should enable them to be of ser-
vice in suggesting improvements in
methods and directing new lines of
work for those farmers who are not

Farm Counsellors

satisfied with the returns from their
farms. It is a service which may be
made of great value, but much will de-
pend upon the efficiency of the coun-
sellors and the confidence they can de-
velop among the farmers. The move-
ment comes largely as a result of the
recent agitation for more direct service
in fostering rural development and as-
sisting in greater and more economical
production of farm produce. The early
success of the service will be a good
indication of how much the farmers
share in the belief that they are in
need of such instruction. The service
and the counsellors are on trial. The
new appointees have made good in in-
stitute work. They have had the ex-
perience to fit them for their new
service. Their usefulness in this new
field will depend largely upon the op-
portunities that are given them, the
confidence with which they are re-
ceived by the farmers, and their ability
to adapt themselves to the wide diver-
sity of conditions and demands made
upon them.

months for pork, sheep and lamb; 5
months for dressed fowl, drawn, and 10
months for undrawn; 8 months for
eggs and 9 months for butter and fish.
Penalties ranging from \$500 to \$1,000
and jail sentences of from 30 to 90
days are provided for violations. There
has been much theorizing and some ex-
perimenting with storage regulations
in their relation to food prices and
wholesomeness. There is much differ-
ence of opinion as to length of time
various articles can be held in storage.
The time here specified should be gen-
erally satisfactory. Altho, as careful
investigation and absolute insistence
on soundness and wholesomeness when
an article is admitted to storage are of
greatest importance, it is probable that
as these points are emphasized the
length of time of storage may be in-
creased without injury to the products.

STATE CAPITAL NEWS

State's Agricultural Statistics.—
Preliminary arrangements to provide
the first system of agricultural statis-
tics are now being worked out, and ex-
pected to be in operation by the end
of summer. There has long been a de-
mand for this sort of information and
the commonwealth, in spite of its po-
sition as an industrial state, has been
more or less dependent upon voluntary
information. The appropriation of
\$25,000 for a bureau of statistics will
meet the need. Full operation will
hardly be worked out for a year, but
it is hoped to make it as important and
trustworthy in its way as the statis-
tical bureaus of the departments of
health and of internal affairs. The
first work will be to make a census of
farmers and to ascertain acreage under
cultivation in woodlands, etc. This
will probably be obtained thru county
authorities or from assessors, whichever
method will combine cheapness and re-
liability. Productive data will then be
gone into.

Farm Counsellors in Field.—The 10
farm counsellors enter upon active
work today. Almost 100 requests for
early advice on problems attending
soils, drainage and other matters have
been received.

Live Stock Bills Held Up.—Owing to
another controversy over the manner
of making and paying appropriations,
the payment of over \$21,000 of claims
for cattle and horses killed by the
state because of tuberculosis or other
diseases has been held up. Steps are
being taken to secure an early settle-
ment, and it is hoped within a week
or 10 days to make payments.

Claims have been paid for years under
the head of indemnity. The auditor
general's department, however, held up
the payment until it can be determined
whether such an item is a proper "ordi-
nary" expense of government.

There is considerable hair splitting in
the auditor general's department, and
it would have been far better for all
concerned if Auditor-General Powell,
who was a member of the senate in
1911 and during half of 1913, should
have raised his questions while bills
were pending, so that appropriations
could have been made in a manner of
which there could be no dispute. The
state government has been interrupted
in part by a controversy for which
there is no excuse at this time, as the
fault can not be remedied until the
next legislature meets in 1915. The
sooner a court test is had on some item
that will not interfere with the aud-
itor general's department, the better
the work for all concerned.

Politics should have no place in dis-
bursement of state funds for well-
defined objects, and if the auditor
general is inclined to withhold such
items as live stock indemnity bills or
state aid to agricultural fairs, the state
administration has a remedy at hand in
the courts at any time to enforce pay-
ments.

Demand for Change in System.—
There appears to be a general demand
for a system in appropriations, the
lack of which has been brought out
the last six months in this letter. This
arises biennially, especially when gov-
ernors have had to make wholesale vot-
es to fit income to the allowances vot-
ed by the lawmakers. This year the les-
son has been driven home so hard that
a cry has arisen in the daily press
for the abuse will render a lasting
service to the state. Legislators can
here bound to get all they can for their
districts in the way of appropriations

for hospitals, public works and the like.
In Washington they call it "pork,"
but the amounts obtained are not fat
enough to warrant such a name here.
Pennsylvania now furnishes a spectacle
of having an income of \$31,000,000 to
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other objects whose benefits are more
or less restricted in distribution. If
system in appropriation could be made
an issue in the next legislative election,
as will be local option and some other
things, it would be most advantageous
for nearly 8,000,000 people.

School Money.—Payment of the
state's bounty to the school districts
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board of education to disburse \$25,000
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Reducing Road Work.—The state
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How Miss Fatama Terminated the Land Sale.

By MARY L. DANN.

"Do not miss this sale, unless you enjoy regretting a lost opportunity. We are going to sell, at your own price, 150 lots, on the main street leading to your beautiful town, within 15 minutes' walk of churches, school and postoffice, and, besides, we shall give away hundreds of dollars' worth of presents to the holders of the lucky numbers. Each person attending the sale will receive a ticket." Miss Fatama Wells read aloud from the yellow handbill, which she had picked up from the well scrubbed floor of the old-fashioned portico which still clung pathetically to her quaint little home; then she shrugged her shoulders in disgust.

"Now, wouldn't that scheme drive common sense to the seashore for a vacation?" she exclaimed. "The unbecoming idea of selling off a whole addition at auction, like you'd sell household goods and farming implements too numerous to mention. I have seven lots in the most desirable part of this town, only six minutes' walk or four minutes run from either depot, and if I should offer them for what they're worth to hold the world together, probably nobody would want to buy; but as soon as these sharpers appear with their yellow tag lot sale, everybody will have a violent attack of the shallows and be on the spot ready to invest. It beats anything how folks take to being swindled as a gossling takes to water." Still muttering to herself, Miss Fatama deposited the hand-bill in the kitchen range.

The founders of Peerless Park had bought 35 acres of reasonably good land adjoining the city limits for \$100 per acre—just what it was worth for farming purposes. They had platted it into lots of about 40 x 100 feet. The plat was legally accepted and declared an addition to the city of Oakdale, and they were now prepared to sell it to the public at a net profit to themselves of \$400 or \$500 per acre.

The three promoters were skilled in publicity and knew how to write fetching advertisements. The local papers displayed columns of well-written matter exploiting the new addition. They darkly hinted that when the people of Oakdale had but twice more exchanged New Year's greetings, electric cars would be dashing past that particular locality, within hailing distance of every dweller on the addition. They estimated the few months that would intervene before the pavement of the main street of Oakdale would be extended beyond Peerless Park, and when water and gas would be piped thereto.

To many these statements seemed reasonable, but not so to Miss Fatama, who, altho public spirited, disliked to see these interlopers, as she termed them, walk away with the earnings of her neighbors. She set her teeth firmly and drew in her lips until they formed a straight line across her face, not unlike a slit in a pumpkin. As she laid the table for ten she stamped back and forth between the dining room and kitchen in a determined manner boding no good to the founders of the new addition, who little dreamed that there was a David arising for their Goliath.

The day designated for the sale of Peerless Park was cloudless. The air was clear and the foliage, shower washed, sent back glints of sunlight as the breezes played thru the leaves. There was color and brightness everywhere.

By 10 o'clock, the hour appointed for the opening of the sale, several hun-

dred people, men, women and children, jostled and elbowed each other in a frantic endeavor to procure from the ticket dispenser the piece of green cardboard which might entitle them to one of the presents about to be distributed.

Promptly at the hour appeared Mr. Bradner, one of the promoters, arrayed spick and span in a suit of faultless cut and linen fresh from Lem Yee's. He was standing erect in the front of a light wagon, drawn by a high-stepping horse. In the back of the conveyance were two large boxes, from under whose covers peeped unruly bunches of excelsior, and among which reposed the costly presents destined to make glad the hearts, and aristocratic the homes, of Oakdale people.

The occupant of the wagon proved himself to be an auctioneer of exceptional ability. It seemed only necessary that he open his mouth for the words to come tumbling out. Not one of his listeners had ever dreamed that the King's English could boast such an array of adjectives of alluring sound as rolled tumultuously from the tip of his tongue and clustered around the words, "Peerless Park."

The rather lengthy speech finished with a grand flourish. "Now," said the auctioneer, "before I sell a single lot I am going to make somebody a valuable present."

He drew a ticket from the box beside him and announced the number. The person holding the lucky cardboard was handed a cut-glass water piteber. The present was, indeed, a valuable one, and the look of expectancy deepened on the upturned faces of the crowd.

"I shall now," continued the auctioneer, "sell this corner lot, having a frontage of 40 feet on Main Street and 100 feet on West Street, the most desirable one on the addition. The man who allows this lot to pass into the hands of his neighbor is laying the foundation for a lifelong regret. What do I hear?" The bidding was fast and furious and the lot was struck off at \$500.

"There," said Miss Fatama, "that pays for just five acres of this wonderful addition, and I suppose the man who bought that lot thinks he has done a great stroke of financing."

"I'm going over to the further corner of the Park," called the man in the wagon, "and shall proceed to sell another lot, but before I do so I shall give away some presents. Hurry along to be there when your number is called."

Standing grandly erect in the front of the vehicle, the auctioneer drove rapidly away. The crowd followed as best they might, falling over corner stakes and tufts of grass, treading on one another's feet and on dress skirts fore and aft. Aunt Hannah Howard, who could not walk and was always compelled to ride in a tricycle, fearing that she would be left behind, clung with one hand to the back of the auctioneer's wagon and was drawn over the humpy, newly plowed street at a rate appalling to the onlookers. She held obstinately fast until an extra large sod encountered the front wheel of her machine when, presto, the relative positions of the two were changed, the tricycle being uppermost. Several perambulators and their occupants met their Waterloo in that first mad charge. Nobody heeded the misfortune of his neighbor, so frantic were they all to be present at the drawing.

Already the auctioneer had begun to call numbers when the vanguard of the

mob reached the wagon. They surged forward and crowded each other to the point of suffocation. Professor Westren lost his spectacles, as he wiped the perspiration from his face. The people were so closely wedged about him that he could not recover them, and when the excited mass of humanity had surged on, he found them, the lenses pulverized and the bows stamped into the earth.

Three or four handsome presents were given away, the last being a tea set of silver bearing the mark "Sterling." The crowd became delirious, but Miss Fatama viewed these proceedings from the outskirts.

The auctioneer resumed his sale. The bidding was reckless and the lot was sold at \$300 to a hard-working teamster about town.

Again the wagon made a flying trip across the addition, the occupant warning his followers to be on hand to respond to their numbers, or lose their prize. On they rushed, keeping their eyes upon the erect figure, swaying precariously in the swiftly moving wagon. They could not see where they were stepping. It mattered not to them that skirts were being ruthlessly torn from their moorings and children were trampled under foot. They must be on hand when the first number was called, if the half of Oakdale's population be crippled in the race. Each face wore a look of strained expectancy. The gambling propensity, which is latent in every son and daughter of Adam, had been aroused, and discretion was thrown to the winds.

As the struggling, perspiring multitude scurried across the field like a wind-driven cloud, it so happened that right in the pathway of hurrying feet Sir Woodchuck had dug an innocent appearing hole. This excavation was intended solely as the boudoir of Lady Woodchuck and the nursery of their roiling offspring, and in no wise as a pit for the unwary feet of any of the genus homo. However, Deacon Fordham, forced rapidly on by the crowd in the rear, sent one foot down in the woodchuck's home on a tour of exploration. The next moment he was prostrate on the ground, his gold-headed cane broken short, and a dozen trampling, scurrying feet had passed over him.

There he lay, white and still. He had forced his sharp fangs teeth thru his tongue and the blood flowed from his lips. No one stopped to inquire if he was hurt save Miss Fatama, who was leisurely bringing up the rear. Samaritan-like, she dragged her fallen brother away from the woodchuck's invaded abode. Whipping a pair of scissors from her hand-bag, she cut the laces of the Deacon's shoe and removed it from the already swollen foot. She loosened her white cotton belt and with it hand-aged the sprained ankle, then rolled her jacket into a makeshift for a pillow and slipped it beneath his head. Looking about her for the "shadow of a rock in a weary land," and seeing none, she raised her umbrella above him and with a piece of the broken cane pounded the blunt handle into the ground, remarking between whacks, "I—reckon—that umbrella—is—going—to—stay—put."

"There you are, Deacon," she said cheerily, when she had finished. "You know you've often remarked in prayer meeting that you wish to go down with no blot on your 'seuteheon' and it looks to me as tho that is just what you've done."

The Deacon looked up into Miss Fatama's face with a wan smile, as she continued, "I'll go over there and send a couple of those demented men for a doctor and a stretcher. Besides, there are other things that should be done up in that crowd," and she walked vigorously away.

In cleaning up the land for platting, the workmen had picked up and thrown together a large pile of stones, close beside which the auctioneer had driven his wagon. Miss Fatama passed quickly around the vehicle and commenced scrambling up the rocky heap, to the certain destruction of her cloth shoes. She used the longest piece of the Deacon's broken cane as a Swiss mountain climber uses his alpenstock, forcing it between the stones and pulling herself up by it. When she reached the summit she paused a moment to recover her breath, meantime waving the cane frantically to attract the attention of the excited people.

"Neighbors and fellow citizens," she began grandiloquently, "Maybe I ought not to try to talk to you, and in climbing this stone heap I should hate to climb out of my sphere. I want surely to be proper, and I believe something needs saying right here and now, before there's any further waste committed, as the lawyers say."

The auctioneer did not consider Miss Fatama of sufficient importance to be noticed by him, but the people began to gather about the stone pile, listening, as it were, to a voice from the hilltops.

"Look across to where you see that umbrella," she continued, indicating with the remnant of the Deacon's luckless cane. "Under it is Deacon Fordham, your friend and brother, his tongue bitten almost in two, and one foot turned until it is headed the other way. He may be in a dying condition for all you know, or seem to care."

A murmur of sympathy ran thru the crowd and all eyes were turned toward the spot marked by the umbrella. Miss Fatama resumed: "It is my opinion that some of our respected citizens will be resting under the mossy marble if this thing goes on. Here's Aunt Hannah Howard with a bruise on her head as big as an egg, that she got when her tricycle tripped up; here's Jones' twins crying for fair, because they were turned out of their cart by their mother chasing across this field, and who knows but their spines are tweaked all out of shape for the rest of their lives; here's Professor Westren's eight-dollar glasses tramped to smithereens; here's Manda Robinson with three yards of 50-cent trimming torn off the bottom of her skirt, and here's myself with both heels blistered and a new pair of shoes worn to a frazzle, and this show has only just begun, as you might say. Wouldn't it seem as tho it's time for somebody to come to his senses?"

"I don't suppose it occurs to any of you that every time this man sells a lot he's making enough money off the buyer to pay for 40 such presents as he's giving away. He tells you there may be a street-car line thru here and then you'll be sorry you didn't buy. There may be an air-ship line to the moon some day, but I'm not going to invest my money up yonder 'till it comes. You might as well be sorry you didn't buy when the street-car line arrives as to be sorry you did when it don't."

"This man tells you that you can pay about the same as rent and soon own a home. The fact is, you can pay him a whole lot of money and when you get thru you'll have only a lot without a house on it, worth about a quarter what you paid for it. It's like riding a rocking horse all day. You can put in a tremendous amount of energy, but you won't have gone far when it comes night. On the same conditions offered you, any good real estate man in Oakdale will sell you a house and lot, where you can live while you are making the payments, and save rent. There's another thing I want to mention. This city hasn't agreed to do a dollar's worth of work on the streets that have been laid out on this addition, and they will soon grow up to ragweed and

thistles higher than your head, and that won't add much to the value of these lots.

"This scheme seems to have taken away every spark of reason you have all got. It's the races and the Louisiana lottery mixed about half and half. I want to ask you all to think sanely and soberly for about a minute, and I believe you will agree with me that the thing to do is to go home and let these fellows sit down and wait for the street car. The streets may be paved out here some day, but by then a great many of us may be tip-toeing over golden pavements; and when the water is piped down this far, we may be drinking at the everlasting fountain. If these fellows want to pay city taxes on farming land, let them do it, and I reckon they'll get proper tired of it soon."

Miss Fatama stopped for breath and the auctioneer put up a noisy, tho rather incoherent remonstrance.

"Hold on there, you feller," shouted a voice from the crowd. "Miss Fatama ain't thru; she's just stopped at a cooling station."

Miss Fatama seemed to realize for the first time, that she was very much in the limelight. Her cheeks flushed crimson, but balancing herself uncertainly on a large stone at the very pinnacle, she made a final appeal.

"I want to ask Sam Wilton to get on his wheel and go for a doctor for Deacon Fordham. To the rest of you I'll say that I've lived among you for a good while, and I've tried to stand for what I believed to be right. I am coming down off this stone pile, and everybody that sees this business as I do, and proposes to let these smooth talking fellows leave this town without taking with them a lot of your hard-earned money, with a contract in their pocket that you are to pay them a monthly pension for years ahead, just fall in line behind me. Keep your eyes on the knob of the Deacon's cane, which I shall hold high to indicate that by this sign we here and now sit down on all contrivances to loot our townspeople."

The auctioneer mounted to the seat of his vehicle and a red-hot torrent of words flowed from his lips, accentuated by most heroic gestures, as he tried to gain the attention of the throng, while Miss Fatama gingerly made her descent from the stone heap.

"Three cheers for Miss Fatama," called Justice Hannald, and the neighboring hills echoed back three thunderous hurrahs, which completely drowned the voice of the excited auctioneer, as Miss Fatama, followed by the crowd to a man, commenced her triumphal march back to town.

Three baffled, confused men leaned against the auctioneer's wagon and gazed after the hundreds of prospective buyers disappearing in the distance.

"Joe-r-see-lam," exclaimed the ticket dispenser, giving his knee a resounding slap. "Knocked out of \$20,000 as straight as you can shoot and by a woman! Hanged if a fellow couldn't stand it better if she had been even a good looking one."

THE FIVE-ACRE FLAT

By Nelson A. Jackson

"Well, George, what are your plans after you finish the high school course next month?" Mr. Willits, a well-to-do farmer, asked as he looked up from the piece of harness he was mending when his son came into the shop from school.

"I have been thinking about that a good deal for some time past. I have wished to talk with you, but there hasn't seemed to be any opportunity. What do you want me to do, father?" George placed a piece of board over the

end of a nail keg and sat down.

"I wish you to feel perfectly free in making your choice. I know that you will be a good man and citizen whatever you do. If you wish to go to college and prepare for some profession, I should be glad to help you."

"Thank you, father, for your confidence and for your offer of assistance. I want to be a farmer."

Mr. Willits looked at his son in surprise. He had hoped for this but had not expected it.

"I think you are sensible," he said, "and I am very glad that that is your choice. I shall be glad to take you into partnership with me, if you wish."

"Now I know that you will think me queer, but I want a college education also, and that isn't all; I want a course in an agricultural college besides that. And more than that, I intend to pay my own way thru for the entire course."

"Well, well, George, you certainly have plans, but from my knowledge of you, I find that you usually have a way of carrying them out. Let's have your scheme for this," his father said.

"I am only seventeen years old and it'll not do me any harm if I don't start my college work for a year or so," George spoke enthusiastically as he unfolded his plan. "I thought that probably you would hire me by the month for a year. That would give me money enough to buy the five-acre flat of the Miller girls. Of course I could only make a part payment on it at that time, but could finish paying for it within a year. I have always thought that that land was especially adapted for celery. In one year's time I could raise enough celery on half of the land to finish paying for it and have enough left to give me a good start towards my college expenses. You needn't look suspicious, father," George laughed, "I have looked into this matter thoroly. Wall Brothers say that they can handle it at a good figure all the celery I can furnish them. After getting the celery business started I could go to college and hire someone to look after the crop for me. Then we are so near the university that I could run out home any Friday afternoon and direct things myself on Saturday. What do you think of my scheme?"

"In most boys of your age I should call such ideas mere idle dreaming, but you seem to have a pretty level head on your shoulders, if you are my son," his father replied.

"I guess that I must take after my father."

"Do you know, George, at what figure the Miller girls hold the flat?"

"Yes, sir. One hundred dollars per acre is their lowest figure, and I must take it all or none. You are perfectly willing that I should try this?"

"Certainly. Go ahead, my boy; I'll advance the money and you can buy the land tomorrow if you wish."

"That's a temptation, but I prefer to try it out, depending only on myself. If I fail, perhaps I'll call on you for help. I fully realize that I am going into a big undertaking. There is one thing that troubles me, the possibility of the Miller girls selling the land to someone else before I am prepared to buy."

"You had better see them," his father advised, "and get the refusal of the land; then you are sure of first chance. If it is apt to be sold, I guess we can fix it all right."

"I know, father, you are willing to help, but I have my heart set on being absolutely independent in this matter. I shall see them tomorrow, tho, and get the refusal."

On the first of July George was duly installed as one of the hired men on the Willits farm at \$25 a month and home. One day in the fall he took a

load of apples, potatoes and vegetables to Uncle Spanner, an old gentleman who was known to everyone far and near. He was crippled with rheumatism, so that he was unable to do much work, but everyone supposed him to be in comfortable circumstances. He lived all alone in a neat little cottage on one of the side streets of the village. George noticed that Mr. Spanner seemed more feeble than usual and that his hands trembled more than their wont as he paid for his winter's supply of farm produce.

On his way home he stopped at the postoffice. There he found a note for him from the Miller girls which told him that they had a cash offer of \$600 for the flat, and that they would accept the offer unless he could give the same amount in cash. It was necessary for them to know his answer the next day. George's feelings went down as he read this note. He was sorely disappointed and at the same time justly indignant. They had offered him the land for \$500, if he would pay \$200 down and give a mortgage for the remaining \$300. Now they had come up \$100, demanded cash and gave only one day's notice.

"Oh, well, I suppose that they think I am only a boy and therefore it doesn't make any difference," he muttered. "I guess I'll have to give up the celery scheme and think about something else." He thrust his free hand into his pocket and rattled in an aimless manner the five silver dollars which Uncle Spanner had given him in payment. He had been in a hurry when he received them, but remembered that they looked like bright new coins. He took one out and looked at it, carelessly at first, but it didn't seem just like the common dollar. He looked at it more closely, turned it over and looked at the date "1804." He started with surprise. "Whoa," he shouted and, holding the lines between his knees, he took out of his pocket the other coins. They were all bright 1801 dollars. They looked as if they had just come from the mint. A few years before George had been interested in making a collection of coins, and he remembered that 1804 dollars were worth from \$200 to \$600 each. These would certainly bring the highest price as they were not worn in the least.

"Well, I guess I'll have that land now," he exclaimed joyfully; "why these are worth \$3,000. I can go to college next week if I wish."

He was evidently talking to the horses. Then a little wee bit of doubt entered his mind for the first time. He wondered if Uncle Spanner knew the value of these silver coins. His better self told him that of course the old gentleman did not know; if he had known he would have sold them. But Uncle Spanner did not need the money; what difference did it make whether he knew the value or not. It was a God-send for George; why not look on it that way and enjoy the benefit of his good luck. George went over and over this line of reasoning and there always came the troubling "but." Could he really enjoy the \$3,000, or would he always feel as if he had not gotten it in just the right way. Should he not tell Uncle Spanner and then do as the old man said.

He puzzled over it all the way home. He said nothing to his people, but thought about it more or less all night. He slept but little and, when he did, he was either chasing 1804 dollars or they were after him. At one time he thought that he was buried beneath a large pile of them and that their weight was crushing him.

The next morning his mind was settled. He asked for a half day's leave to be absent and a horse and carriage. He drove directly to Uncle Spanner's home. One day in the fall he took a

breakfast when George arrived. "Why, George, tie your horse and come right in," the old gentleman said in a cheery voice as he hobbled down the steps. "What brings you here so early? I ain't used to early callers."

"Here," said George, as soon as they were in the house, "are the five dollars you gave me yesterday. I can't keep them; I don't want them," and he thrust the coins into Uncle Spanner's hands.

"Why, what's the matter? I know they are old; ain't they good? I didn't suppose money would ever outlaw," the old man faltered. "I didn't mean to cheat you, George, you know I didn't."

"Oh, they're good, all right; they are too good! Uncle Spanner, each one of those silver dollars is worth \$600. You've got \$3,000 right there in your hand."

"Pshaw, George, who's been fooling you? Them ain't worth no more than a hundred cents apiece."

"I tell you, Uncle, I know what I'm talking about," George insisted. "I have looked up this matter. I have a paper at home that tells about a firm that is advertising for 1804 dollars and that they will pay \$600 apiece for good ones."

Uncle Spanner almost broke down. When he could control himself, he said: "George, your goodness has saved me from the poorhouse. Most boys wouldn't never done what you have and it wouldn't have been dishonest in them, neither."

"Why, Uncle Spanner, I thought you had lots of money," George exclaimed in surprise.

"That's what most everybody thinks. There are just two people who have known about my money matters. They are Mrs. Wainwright, who bakes and washes for me, and Colonel Johnson, who owns this house and lot."

"Don't you own this house?" asked George, still more surprised.

"No, I don't own anything, only the little furniture you see scattered about, and I have got just 60 cents in money to carry me thru the winter. Then I had planned that the rest of my time here on earth would have to be spent in the country house for the poor. But I won't have to go now," and he seemed to grow younger every minute.

"Tell me about yourself, won't you, Uncle Spanner?" George asked.

"There ain't much to tell. I have always lived here; used to rent this house. Then when the rheumatism got hold of me so that I couldn't work the Colonel told me I might stay right on and never mind the rent. I had saved up \$2,000, but the past ten years have used it all. I have earned a few cents now and then, but the townspeople thought, as you did, that I had plenty of money. These five dollars are some my father gave me over sixty years ago, and he earned them when he was a young man. I tell you, George, it came hard to part with them, but an empty stomach will drive a man to almost anything. I can live like a prince all the rest of my life, but you must have one of these; you've earned it."

The next day George and his father went to the city. When they returned he went to the local bank and deposited \$2,500 for Uncle Spanner. There was not a happier man or boy to be found then he and Uncle Spanner when he handed over the bank book with \$2,500 credited to the account of William H. Spanner, Esq. All that Uncle could say was, "God bless you, George, God bless you," as the tears of joy trickled over his wrinkled cheeks.

George realized his celery dream and took his college course. He always saw to it from that time on that Uncle Spanner had all kinds of farm produce in abundance, free of charge.

Household

EXCELLENT SWEET PICKLES

Mary Mason Wright

In making sweet pickles, use only the best cider vinegar, strong and of fine flavor; and always use porcelain-lined or granite vessels, and granite or silver spoons, and silver fork. Most kinds of fruits make fine sweet pickles, especially cherries, plums, peaches, pears, apples and grapes, and also many of the vegetables. Use only the firm, ripe fruit for pickling, since it should remain as whole as possible to be nice. Tie up each kind of spice to be used separately in cheese-cloth bags before adding to the vinegar.

Pickled Cherries.—Put into a preserving kettle one pint of vinegar and 5 pounds of granulated sugar, 3 or 4 sticks of cinnamon and 2 tablespoonfuls of whole cloves. Bring to a boil; then add 8 pounds of fruit, and simmer slowly one-half hour. Pour into pint or quart fruit jars and seal. Currants, gooseberries and cranberries are all nicely pickled in this way.

Pickled Plums.—Select 7 or 8 pounds



STUFFING PEPPERS.

of nice large blue plums, or use the Gage plums. Prick each one several times with a needle to keep the skins from bursting. Place in a preserving kettle one pint of vinegar and 4 pounds of light-brown sugar. Use one tablespoonful each of cinnamon, cloves, mace and allspice, and bring to a boil. Place the plums in this, and simmer until tender, and fill carefully into jars. Pour the syrup over them and seal. Another method which some prefer is to place the plums in a jar, and heat the syrup, and pour boiling hot over the fruit and allow it to stand overnight; then the syrup is poured off them and boiled until rather a thick syrup, and then poured over them again. The spices can be left in their little bags, and placed on top of the jar.

Pickled Pears.—Pare, and if large cut into halves, enough nice pears to make 7 or 8 pounds. Place in a preserving kettle 1 pint vinegar, 1 cupful of water and 4 pounds of granulated sugar, and a tablespoonful each of cinnamon, mace and cloves. Add the fruit and simmer slowly until tender. Lift out carefully, and place in cans or jars. Boil the syrup down, and pour over until overflowing, and seal.

Gingered Pears.—Pare and core

enough fruit to make 7 pounds, and allow to this amount of pears 3 pounds of sugar, a half pound of green ginger, and 5 or 6 lemons, or enough to make about a cupful of juice—vinegar can be used instead of the lemon if liked. Place the sugar over the pears and allow to stand overnight; also scrape the ginger root, cut into bits and let stand in a cupful of water. In the morning place the pears in the oven until the sugar is dissolved, then pour off into a preserving kettle, and add the ginger root, also the water in which it has been soaked. Boil a few minutes, then add the lemon juice and the fruit, and boil until tender and the syrup is thick. Carefully place the pears in the jars, pour the syrup over them, and seal up.

Sweet Apple Pickle.—Peel enough apples to make 8 pounds of fruit, using large sweet apples. Place in a preserving kettle 1 quart of good vinegar and 1 quart of water and 4 pounds of sugar. Stick a clove or two in each quarter of apple and also add some stick cinnamon to the syrup, and allspice, if liked. Bring to a boil, add the fruit, and simmer slowly until tender. Place the fruit in jars, boil the syrup a bit longer, and pour over them.

Sweet Cucumber Pickle.—Choose the large yellow, ripe cucumbers, peel and slice, then soak in weak brine for at least 24 hours. Drain, pack in jars in layers with thin slices of white onions and a few tiny red peppers. Place in a kettle a pound of sugar to each quart of vinegar used, a tablespoonful each of cinnamon, cloves and mace. Bring to a boil and pour over the cucumbers in the jar and allow to stand for several days, then pour off and repeat the process until the syrup is thick; then add the pickles and bring to a boil, fill into pint jars and seal. Large green cucumbers that are too large to pickle whole can be treated in this manner also.

Beet Pickles.—Select young, tender beets, cut off the top, and wash well; then boil until tender and the skins can be easily slipped off. Boil together equal parts of sugar and vinegar, with 2 ounces of mixed spices, or with an ounce each of cloves and mace, a tablespoonful of salt, and a few small red peppers. Pour the vinegar boiling hot over the beets.

STUFFED PEPPERS

Cut the tops from red or green peppers; remove seeds; cover with boiling water; let stand five minutes. Fill with a stuffing made of one cupful of tomato pulp drained from juice, one-half cupful of bread crumbs and one cupful of stock; add two tablespoonfuls of flour and two tablespoonfuls of butter which have been cooked together. Season with salt, cayenne, paprika and onion juice.—Housekeeper.

ICE-MAKING REFRIGERATORS IN THE HOME

The improvements in electric devices have now encompassed the ice-making plant. In some of the English and South Europe cottages, as well as in Baltimore and New Orleans in this country, the opportunity to build individual ice-making plants has been

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seized, and many houses and apartments are being built with these machines. In one large apartment building, with several hundred families living in it, in Baltimore, every kitchen-pantry is equipped with a refrigerator that is supplied with electricity to make ice.

Artificial ice made thus is independent of weather conditions, distant ice houses, or dealer's excuses for his increase of price and delay. There are now nearly a dozen different kinds of home ice-making machines, but they are all good, and any kind of good water can be used in them. Whether connected with the street current, the so-called central station method, or with a little motor of your own, these individual ice plants are safe and economical. A compression system, an exhaust steam or vacuum method, and steam operating electricity are in use.

Under favorable conditions ice is procured at a dollar or less a ton. From 40 to 50 kilowatt hours per ton of ice is enough. People with these plants have been known to supply a whole neighborhood with absurdly cheap ice, and a small central station in Baltimore, surrounded by small homes unequipped with electricity, gives ice away through the year for advertising purposes.—Dr. Leonard Keene Hirschberg, Maryland.

Crustades of Bread.—Cut stale bread in diamonds, circles or squares, the bread being very thick. Remove centers, leaving ease, and fry in deep fat, or brush over the top with egg dipped in finely chopped parsley. Fill with luncheon chicken, creamed vegetables, fish or meat.—E. O. J.

PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt and age for children's patterns. Address Pennsylvania Farmer, 214-18 No. 12th St., Philadelphia, Pa.



6124—Ladies' Four-Gored Skirt.—Cut in sizes 22 to 30 inches, waist measure. Medium size requires 4½ yards of 36-inch material. Price of pattern, 10 cents.

6091—Ladies' Dress with Two-Piece Skirt.—Cut in sizes 34 to 42 inches, bust measure. Size 36 requires 5½ yards of 36-inch goods. Price, 10 cents.

6097—Girls' Dress.—Four sizes, 6 to 12 years. Age 8 requires 3½ yards of 36-inch material. Price, 10 cents.

4480—Boys' Russian Dress.—Cut in sizes 1 and 2 years. For 1 year it requires 1½ yards of 36-inch material. Price, 10 cents.

6128—Ladies' Blouse.—Five sizes, 34 to 42 inches, bust measure. Size 36 requires 3 yards of 27-inch material, 2 yard of 36-inch net for gimpes. Price, 10 cents.



Mrs. Tenore.—"Deary me! John wants to buy another piece of ground and farm it! That means more hands at harvest time—more dishes to wash—Oh, I hate the farm!"

Anty Drudge.—"I know you are too tired out to realize what you are saying. But don't bother about extra work. Here's an extra helper, and one that you can always use. Fels-Naptha Soap will clean your dishes, wash your clothes and do all your work better and easier than ever before."

An extra helper! That's just what Fels-Naptha Soap is! It helps in all kind of ways, and makes all sorts of work easy.

For washing clothes, cleaning greasy pots and pans, washing dirty floors—use Fels-Naptha Soap, cool or lukewarm water, half the strength and time you are used to using and see how fine the results will be.

Fels-Naptha Soap dissolves grease, makes stains and dirt disappear.

Directions on the Red and Green Wrapper tell you how to make your work easy.

Fels & Co., Philadelphia.



August 9, 1913.

Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Aug. 4, 1913. Whole-sale butler's market. Receipts of solid-packed creamery were light, prices ruling firm. Fine quality prints cleaned up at full figures. Heat-damaged stock dull and weak. There was little trading in live poultry and the market was unchanged. Dressed fowls scarce and firm. There was a good outlet for the limited receipts of fine new laid eggs, prices ruling firm. Much unattractive stock was dull and weak. Vegetables sold slowly with little change. Trade in fruit quiet. Values generally were well sustained.

Vegetables.—Western creamery, 30c; extras, 27½c; firsts to seconds, 24½c; special prints, 34½c; near-by prints, 31c. **Fruit.**—New York full cream, 14½c; 15c; do. fair to good, 14½c. **Eggs.**—Candled, 27½c doz.; extras, 24c. Current receipts at \$6.00 per case. **Poultry.**—Fowls, 10½c; old roosters, 14c; 12c; young, 18c; 20c pair. **Dressed Poultry.**—Western fowls, 19½c; roosters, 14c; chickens, 22c; squabs, \$2.00 @4.50 doz.

Vegetables.—White potatoes, new, \$1.50 @1.75 bbl. Onions, 80¢ @70¢ basket. Peppers, 25¢ @30¢ basket. Tomatoes, 50¢ @60¢ per ½ bushel. Egg plant, per crate, \$1.50 @1.75. Cabbage, 40¢ @50¢ bas. Lettuce, 50¢ @1.00 basket. Sweet potatoes, 10¢ @12¢. Radishes, 1c @2c. Beans, 20¢ @40¢ bas. Peas, \$1.50 hamper. Tomatoes, Jersey, 50¢ @60¢ bas. Corn, 40¢ @50¢ doz. Squash, 15¢ @20¢ doz. **Fruit.**—Apples, southern, new, 50¢ @1.50 hamper. Huckleberries, 10¢ @12¢ qt. Cherries, 5¢ @12¢ lb. Gooseberries, 30¢ @40¢ 8-lb. basket. Currants, 20¢ @35¢ 8-lb. basket. Peaches, \$2.00 @2.50 carrier. Pineapples, per crate, \$1.00 @2.50. Grapes, \$1.50 @2.25 bas. Cantaloupes, \$2.00 @3.00 bas. Pears, cooking, 40¢ @75¢ bas. Apples, 25¢ @50¢ bas. Hay and Grain.—No. 1 timothy, old, \$18.00 @19.00. No. 2, \$16.00 @17.00. No. 3, \$14.00 @15.00. No. 4, \$12.00 @13.00. No. 5, \$10.00 @11.00. No. 6, \$8.00 @9.00. No. 7, \$6.00 @7.00. No. 8, \$4.00 @5.00. No. 9, \$2.00 @3.00. No. 10, \$1.00 @2.00. 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Veterinary

(Conducted by W. C. Fair, V. S.)
(Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer. Initials only will be published. When reply by mail is requested, it becomes private practice, and a fee of \$1 must accompany the letter. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, would make one of the most valuable medical symposiums a farmer-stockman could obtain.)

Suppurating Sheath.—I have a horse that is not less than 20 years old, but a good one. He has a discharge from sheath and I would like to know how to treat him. A. W. T., Philadelphia, Pa.

—Give him a teaspoonful of powdered nitrate of potash and a tablespoonful of bicarbonate soda at a dose in feed, three times a day. Wash out sheath twice a day with a solution of permanganate of potash 1 part and water 1,000 parts.

Melanotic Deposits in Bladder.—I have a white mare, 19 years old, that has not been thriving for the past 6 months. Her urine is a very dark color and she seems to suffer more or less pain when voiding it. I have also thought that there was some blood mixed with it. She has been a good and faithful animal, therefore I would like to save her. B. G. T., Tidout, Pa.

—I am inclined to believe if you will wash out rectum, then introduce your hand, you will find that the bladder contains black pigment bodies, an ailment which old white horses sometimes suffer from. Very little can be done in the way of treatment. By manipulation the little bunches can be crushed, then they might come away with the urine. It is scarcely practical ever as a last resort this may be done. Give her a teaspoonful powdered nitrate of potash and 2 tablespoonfuls of bicarbonate of soda at a dose in feed, 2 or 3 times a day. If you decide to have her operated on, be sure and secure the services of a competent veterinarian.

Confirmed Roarer.—Ever since my horse had distemper he has been short winded and if driven fast he roars very loud. Our local Vet. tells me it is not heaves, but a throat affection which can perhaps be relieved by a surgical operation. He thinks that medicine, either given or applied, would have little effect. M. L. A., Washington, Pa.

—Careful attention should be paid to the diet, the food should be of good quality and not too much bulky food fed at a time. Moderate, slow exercise will have a good effect. Counter-irritation to the throat will do some good, also give one dr. potassium iodide at a dose, 2 or 3 times a day. If the glands of the throat are swollen, apply 1 part iodine and 10 parts fresh lard every day or two until they reduce to about normal size. Also give him 1 dr. ground nux vomica at a dose in feed, 2 or 3 times a day. Now, if the muscles of the throat are atrophied, apply equal parts turpentine, aqua ammonia and raw linseed oil, every two days. Then it may be necessary to have a surgical operation performed, because there may be a changed condition of throat requiring the removal of a portion; but if you believe this operation is necessary, have it done by a skillful operator or your horse may be ruined. The breathing of a horse of this kind is always relieved by making him wear independent bit with over-check, and reining up his head reasonably high.

Actinomyces.—I have a 6-year-old cow that has a lump on jaw which is real hard. So far as I can tell it came on her about four months ago. I have a neighbor that has had a lot of experience in handling cattle, and he tells me that she has lump jaw. She is giving a nice mess of milk and eats what ever I place before her. If it is lump jaw, I would like to have her cured. I would also like to know the cause of this disease. M. R. S., Meadville, Pa.

—Actinomyces is known as lumpy jaw, big jaw and wooden tongue. It is a chronic, infectious disease. These bunches may occur in different parts of body. This disease is doubtless due to the specific action of a certain fungus or organism, and is usually termed "ray fungus." This fungus is found in nature vegetated on grasses, on the awns of barley, the spens of oats, and also on other grain, and the fungi is sometimes found between the vegetable fibers of barley, and may lodge and penetrate the gums of cattle. The

disease is not directly transmitted from one animal to another. In cattle the disease may be located both externally, where it can be readily detected, or it may affect internal organs. Applying red iodine externally and giving iodine potassium internally, also the free use of the knife in some cases, seems to be the best remedy.

AGRICULTURE IN CHAUTAUQUA COURSES

The Edinboro, Pa., Chautauqua, being held from August 4 to 16, is giving a series of agricultural lectures for the benefit of the many farmers who make up the attendance. These lectures are given by instructors from State College, and are taking up dairying, poultry raising and fruit growing. All of these lectures are given in the afternoon sessions, beginning at 2.30 o'clock, and are concluded in time to enable the farmers attending to get home to care for their chores.

On August 5, 6 and 7 these lectures given by Prof. L. C. Tompkins, were devoted to studies in dairying. Four lectures on poultry work will be given by Prof. M. C. Kilpatrick, also of State College, on August 9, 11, 12 and 13, special attention being given to local conditions. The course in fruit growing will consist of three lectures on August 14, 15 and 16, by a specialist from State College. This plan brings a college short course to the farmers and permits many who are unable to get away for a longer course to have the advantage of such instruction. It is a feature that should be adopted more generally in Chautauqua meetings.—L. J. H.

Corn Growing.—Farmers' Bulletin No. 537, on corn growing, written by C. P. Hartley, Physiologist in Charge of Corn Investigation at Washington, should be of intense interest to any farmer who is anxious to improve his corn yield. Mr. Hartley goes into methods of selection of seed corn, including germination tests, selection of land for testing purposes, fertilization, preparation of seed bed, planting, combating enemies and cultivation, with suggestions as to drying and caring for the seed corn. The bulletin closes with this significant statement: "The possibility of doubling the acre yield of corn has been demonstrated in many and remote sections of the United States. A persistent loyal adherence of all corn-improvement workers to the motto, 'Fewer acres and more corn to the acre,' is certain gradually to raise the average yield of country, state and nation. The bulletin is free upon application to the Department of Agriculture at Washington.

Feeding Dairy Cows and Calves.—From the Kentucky Experiment Station comes its Bulletin No. 171, which treats the topics above given. The bulletin is comprehensive and goes into the merits of the different feeding stuffs in much detail. It must be understood that the conditions have been studied from the standpoint of Kentucky standards. The bulletin is mailed from Lexington, Ky.

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PENNSYLVANIA FARMER

AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY

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What Did It Cost?

If there is any one question that the farmer of 1913 wants to ask, both of himself and others, it is the one placed at the head of this article. Because of existing conditions farmers are not realizing a fair share of the wealth they create. These conditions are daily becoming more exacting, and the number of hands thru which products pass to reach the consumer are all the while increasing. Not until the cost of production is determined, upon a business basis, can the producer be equipped to demand and insist upon a living price. There must be a basis on which cost can be computed, and that the producer must find. Until he does this he is at sea.

It is a rainy day and I have been going over my pass-book. It was this which suggested this letter. Mine is a simple little ten-cent book covering a year's operations, giving the time devoted to any and every job, the items entering in and the cost of each, with notes about conditions of growth, or failure, character and cost of either, etc., etc. I have a bundle of those little books, running back to that day when, 14 years of age, I left home to work on a farm, and received from my mother Book No. 1. I gave her the promise that every cent's receipts and expenses should be recorded with full details.

Fifty years have passed, and could I turn back the curtain which never outwards swings, one of the things I should think that mother would be the gift of that little pass book and the promise she thus exacted. Men say it is a difficult task to keep farm accounts, but it is not so. A few minutes as one rests under the tree, or at the end of the furrow, or at noon time, will give all the time necessary to note down the time spent on any given job, including man and team, fertilizer used, cost of seed, expense attending any crop. Better still, one has, for all time, a full record in detail of all work done, something of the greatest importance as years pass.

We sprayed this year. There are 85 old trees of varying size and nearly 200 smaller. We used

1 1/3 lbs. soluble sulfur, 2 lbs. arsenate of lead and 1 gill of a commercial insecticide to 50 gallons. It cost me for material \$2.55; for labor, including horse, \$3.50. It was a simple problem to find that expense per old tree was 5 cents and for the smaller, 1 cent.

"Is this worth anything?" someone asks. Yes, it will enable me to know at the close of the year what a young orchard will cost later. Here

There is something else such a record does for a man. It frightens him into greater efficiency. The great trouble is that we are not one-half efficient. The waste moments and hours, as well as steps, would frighten us if compiled on the blackboard. The first lesson is to increase efficiency by minimizing waste. We talk about the troubles of the help problem, yet there is hardly a man but could double his efficiency if he would avoid the

waste of time and energy. When we begin to figure cost of production, and keep record of the hours, pride stimulates activity as well as the saving of steps, and thereby increases efficiency. There will be no more farm implements left in the field or out of doors, because prudence will dictate economy thru proper protection.

On the average farm the loss while hunting for some mislaid part, or mending a long neglected

break, is tremendous. It is made up of a little here and there, but the sum total adds mightily to the cost of production. We want to be aroused to the fact that agriculture is a business to be governed, as other lines of manufacturing are, by certain inexorable laws, not one of which can be broken without serious loss.

Having this information, the producer is prepared for the next step, that of demanding a fair price for his products. Going to market, it will not be a plaintive plea for an offer, but a straight statement of price. Thus far the buyer has fixed the price for all farm commodities as well as for what he sells in return, and he looks for a profit on both. The day is coming when, knowing the cost, the farmer will be better prepared to fix the selling price. When that day arrives, the dignity of farm life will be recognized as it can not be today.

The fact that the year's end finds all bills paid and a balance, larger or smaller, left on deposit in no sense an excuse for not giving attention to



BROOKLEAF FARM BUILDINGS, HOME OF A. S. EMIG, YORK CO., PA. See Article, Page 2.



LOOKING EAST ON BROOKLEAF FARM, YORK CO., PA.

the cost of production. Good business methods attract. That's a familiar saying and as true on the farms as elsewhere. The boy who, by the figures covering all items, sees that the milk which sells for four cents costs only three cents, sees the profit in the business and is attracted. Lacking this knowledge, and hearing his father say, "There's no money in the milk business," he resolves to look for something profitable. When we determine the cost of production of any and all products of the farm we shall be prepared to go on the market like business men, and this is why we must know what it costs.—Dr. G. M. Twitchell, Maine.

Brookleaf Farm.

The illustrations on first page show scenes on one of the oldest and most beautiful farms in York County, Pa. The farm was originally purchased from William Penn by a Mr. Morgan, who settled on it and put up the first buildings among the forest trees. Mr. Morgan was shot by Hessian soldiers during the Revolutionary War, and his widow later married a Mr. Babin. In 1835 a Mr. Emig bought the farm from the Bahns, and it has been in the former family since that time. It is at present owned and operated by Mr. A. S. Emig.

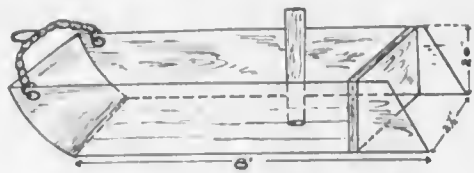
The farm consists of 200 acres and lies in the beautiful and historic Krentz Creek Valley. The well equipped farm buildings stand on the top of a high limestone bluff, 60 feet above the creek. The buildings are modern in every respect, and are eloquent of the thrift and good management of their owner. A well 250 feet deep was drilled thru the solid limestone rock, tapping a vein of most excellent water. This water is pumped by a water wheel which is turned by a tributary of the Krentz Creek.

The farm has been divided into two farms of about equal size. One is operated by a tenant, while Mr. Emig and his three sons farm the old homestead. Feeding steers are the money crop, but the farm maintains an excellent herd of Guernsey cattle and produces good crops of alfalfa and tobacco. A silo was added to the equipment last year, and ensilage is fed to both the dairy and fattening cattle. There are two gasoline engines in use on the farm, one for heavy work at the barn, operating the grain separator, shredder, ensilage cutter, wood saw, etc., and the other for operating the cream separator, churn, grindstone, washing machine, etc. Mr. Emig is a firm believer in the benefits of educational and social advantages of his community. He has long been identified with the school and farm organizations of his neighborhood, and is giving his sons the advantages of high school and college training.

PRACTICAL LITTER CARRIER

The accompanying illustration shows a practical, home-made litter carrier, devised and used by Alvah Cory, of Crawford County, Pa. He says: "Every farmer should preserve very bit of liquid manure possible. I am able to preserve a great amount of otherwise wasted fertility with my manure sled, which looks like a cross between an old-fashioned watering tank and a flat boat. It is about eight feet long, two and a half feet wide, and about twenty inches deep, made water tight. I have my stables well cemented, so that not a drop of liquid is lost. I clean my stables from my herd of eight cows, throwing the litter and liquid in this sled, and haul it out each day.

One horse will pull the load, and the manure is put directly to work. I have a large hole in the bottom, in which I fit a plug. This is long enough to reach above the top of the tank. I can easily remove the plug to let the liquids drain from the sled. I find this very



TANK SLED FOR MANURE.

practical for the small farmer, and he can build an outfit easily from plank. The runners may be made from the plank sides, extending about eight inches below the bottom, or may be spiked to the bottom of the trough. It may be left standing behind the cows, and it does not occupy much space."—W. J.

NITROGEN, POTASH, WHEAT AND CLOVER

Dealing on the question of the kinds and quantities of plant food to be furnished to the wheat and to the clover following, Pennsylvania State College showed the farmers who went there in June some experiments of very great value and significance. There is one series of experiments contrasting the use of lime and the various combinations of commercial fertilizer which has been going on for 32 years. It is the most important experiment of its kind in the United States.

In these plots it was clearly shown that the use of large quantities of nitrogen stimulates the timothy at the expense of the clover; that large applications of nitrogen and potash do not pay for their cost in the added bushels of wheat; that the continued use of lime and no fertilizer results in such soil exhaustion as badly stunts both clover and timothy; that the use of phosphoric acid alone, or phosphoric acid and nitrogen, results finally in very poor clover; and that the very best clover results from the use of phosphoric acid and potash in about equal quantities, without any nitrogen added.

These experiments are on limestone ground, usually credited with ample supplies of potash! Yet the continued use of lime alone, releasing this potash for plant use, does result finally in such a depletion of available potash as to make its lack the limiting factor in plant growth. If that is true of a limestone clay soil, how much more is it true of lighter soils, particularly those of sandy character?

For several years the writer has seen the increasingly good crops of clover on certain sandy soils, where clover had been failing badly, and where the result has been due to abandoning the use of phosphoric acid fertilizer alone and using a fertilizer carrying as much potash as phosphoric acid. It is not contended that nitrogen alone should not be used with the wheat. A light application of nitrate of soda undoubtedly gives the wheat such a start in the fall as to make its wintering over much more certain. With that point in view, the use of the nitrate is certainly justified. The use of larger quantities of potash also is advisable not only because it helps the clover, but also because it stiffens the wheat and reduces the tendency to lodge.

There was another experiment shown at State College which seemed to conflict with the results of the 32-year trial, but does not. On what is called the "New Farm" 1,000 pounds of lime brought fine clover, while right beside it an application of 150 pounds of acid phosphate brought very poor clover.

The lime application had two effects: (1) It released stored potash, and (2) increased bacterial activity, thereby insuring an ample supply of nitrogen. The significant fact is that there was enough phosphoric acid in this soil to balance up and make excellent clover without any renewed application; and that where the phosphoric acid was applied alone it gave no results in clover.

Wheat is our money crop, and we make the blunder of centering our attention on the wheat. We see no particular difference in the wheat due to applications of potash, and fail to remember that, after all, the one crop we must not fail on is clover. For the man who wishes to balance his fertilizer with the ends in view of getting a pretty sure crop of wheat and a good crop of clover, the following quantities of material, mixed at home, are suggested as giving good proportions; and the saving over commercial brands, both in quality of material and actual cost, make it well worth while to do this work of mixing at home: One 200 lb. sack of nitrate of soda, 96 percent nitrogen; one ton of 16-percent acid phosphate, 10.00 percent phosphoric acid; three sacks (600 lbs.) muriate of potash, 9.30 percent actual potash.

This quantity of material would weigh 2,800 pounds, and would furnish the same amount of plant food as 3,200 pounds of a commercial brand giving the above formula as the lowest figures of its guaranty. Cut down these accordingly: 2,800 pounds in place of 3,200 of the commercial brand, or 70 pounds of the home mixture in place of 80 of the commercial brand.

Do not make the mistake of omitting to use lime, however. An application of 1,000 pounds of lime, drilled in before wheat seeding, or at oats seeding, if you sow clover with the oats, will stimulate the activity of the nitrogen-gathering bacteria, increase the foraging power of the clover, furnish enough nitrogen so that the hay will be richer in protein, increase the quantity of hay and humus-making roots, and assuredly pay for itself many times over.—Abram Bunn, Bedford Co., Pa.

A NEW POTATO DISEASE

Attention was recently called by Pathologist I. E. Melhus, of the Department of Agriculture, to a disease of the potato which, the little known, is becoming widespread in the United States. This is the silver scurf, which attacks and destroys the outer skin and causes discoloration and loss of moisture. Silver scurf in its early stages of infection under moist conditions causes blackish olive patches on the surface of the potato. Later the potato is covered with depressed patches of greater or less extent, and as the disease progresses the infected areas increase in diameter and the fungus penetrates deeper into the tuber. As a result it is not uncommon to find the whole surface of a potato discolored, shrunken and shriveled. Mr. Melhus first found diseased specimens in the fall of 1912 in two barrels of potatoes shipped to Washington, D. C., from western New York. Later it was found on Irish Cobblers bought in the Washington market in December, 1912. These potatoes were raised in Maryland, about 15 miles from the capital. More recently the disease has been found in potatoes from Virginia, Vermont, Maine, Kansas, West Virginia, New York, Florida and Wisconsin, which tends to show that it may be quite generally distributed thruout the eastern half of the United States.

In order to gain some idea as to the amount of silver scurf present on potatoes being used for seed purposes this

spring several days were spent examining seed stock being planted in the vicinity of Norfolk, Va. In 10 of the 500 barrels examined the amount of silver scurf ranged from 25 to 90 percent, and in another 10 it varied from about 1 to 25 percent. Another collection, consisting of 25 barrels that had arrived from Aroostook County, Maine, showed about 25 percent of silver scurf. Still another collection from Maine needs mention. It consisted of 15 barrels grown in the south-central part of the state. The collection showed 25 percent of silver scurf.

Experiments have been made with the use of formalin solution similar in strength to that used for scab. One test showed that this treatment—0.8 percent formalin solution—either killed or materially inhibited the growth of the fungus, while another test conducted by the officials of the Department of Agriculture, did not produce so satisfactory results. Experiments are now in progress to determine further the value of formalin as a means of controlling this disease.

A BIG ROAD JOB

It has been said that the way to do a thing is to do it. Evidently that is what certain Michigan farmers think when they want roads built, judging by what they did one day this summer. Word had gone forth that on a certain day all hands should turn out to build roads. Over 8,000 men answered the call; and 8,000 is a good many when all are farmers with a single purpose in mind and a single object in view.

It was up in the northeastern section of the state and along a stretch of highway 250 miles in length between two cities, crossing eight counties and 48 townships. When the sun arose on that eventful day it looked down upon miles and miles of corduroy road, sand holes and swamp. When it set, there were 250 miles of graveled thoroughfare good enough for most purposes, and those 8,000 men went home at nightfall pleased with their day's work.

According to reports this great road "bee" brought out 4,000 teams and equipment and 750 automobiles. And that was not all; 2,500 country women came out and gladly undertook the task of feeding the 8,000 hungry men at the noon hour. Talk about co-operative effort! Was there ever anything just like this? Talk about good roads at \$12,000 to \$20,000 a mile! Was there ever a good road built at any such expenditure as this? Allow the 4,000 teams with one man \$4.00 per day, and allow the other men \$2.50 per day, and the cost of this road building and repairing would amount to about \$100 per mile. Talk about enterprise and achievement; what better evidence that farmers can get what they go after if they go after it together. And why wouldn't it be a good idea for farmers in some other states to take a day off, make such a road "bee" and build roads while they are waiting for politicians to figure out how they can get something out of it in the shape of patronage or graft?

The old system of repair by "working out the tax" is no longer much in evidence. To see how little a man can do when at work on the road is no longer the idea. But when good roads are wanted and wanted badly, there is one way the farmers can get them and that way is outlined above. It may not be practicable to turn out 8,000 men to do the job, but a hundred or two or three can accomplish wonders in a day toward making poor roads passable and ordinary ones "good."—J. W. Darrow, Columbia Co., N. Y.

Poultry

REARING AND MARKETING CAPONS

Our farms have their steers, barrows, wethers and geldings—but they seldom have their capons. From a meat standpoint the capon is as important as any of the animals mentioned. Capons are more tractable, less nervous and excitable than young cockerels. They take kindly to confinement, will not crow nor fight, and even will brood young chicks. Having a quiet disposition, the capon is an easy keeper. He makes greater gains, and more economically, than does his active brother. His flesh remains soft and palatable as a spring chicken.

The labor required in feeding capons is really less than with young chicks. The cost of feeding capons after they have about reached their full size is about five cents per day for each 100 pounds of live weight.

Usually capons are kept until they are about ten months old, when the

are caponized when about four months of age.

Morning and night a grain mixture is given, composed of two quarts wheat, one quart oats, one quart cracked corn, one pint sunflower seed and one pint buckwheat. The evening feed is composed of one part bran, one part corn meal and two parts middlings. They are given all they will eat up clean. To the above mash Mr. Twining adds fresh green cut bone until there is a nice crumbly moist mash. This requires about 65 pounds of green bone for every 100 capons. No water is used in the mixture.

The capons on Afton Farm are kept in flocks of from 50 to 100 head. New York and Boston are the best city markets, the best prices ranging from 25 to 35 cents per pound, wholesale prices, according to demand. It costs from \$1.00 to \$1.25 to grow a capon up ready for market. The best market months are January, February, March and April—February and March leading.

Like other fowls, capons must be fasted 24 hours before killing. The head is left on, in dressing, as this is the distinguishing mark of a capon. The fowls are bled by cutting inside



INTERIOR OF ONE OF THE HEN-HOUSES ON HUNT POULTRY FARM, Cumberland Co., N. J.

market is at its highest, and the birds have made most profitable gains. For several months after the operation they should be fed a good growing ration, avoiding material that is too fattening. There should be a variety. When they can have no pasture, they must be supplied with green feed, such as cut clover or vegetables.

As capons are not, as a rule, marketed before the Christmas and New Year holidays, they have to be housed during the late fall and early winter. On account of their quiet disposition they do not suffer from being overcrowded, doing well with about two or three feet of floor space per fowl. It is better, however, to allow them double that space.

During the last month or two before marketing, the corn in the ration should be gradually increased until the fowls are on a full fattening ration. For the last two or three weeks it is best to shut them up and feed in crates, for every possible ounce at this stage adds to the appearance and profit.

On Afton Farm, Yardley, Bucks County, Pa., usually about 5,000 capons are marketed annually. Barred Plymouth Rocks are used for this purpose for the reason, says Stephen B. Twining, the proprietor, that they give right to ten pound capons, the most desirable weights. Heavier capons are needed only in a limited way. These

the neck or throat. The neck and saddle feathers are usually large and fine; these and the small size of the tail distinguish a capon from any other fowl, therefore they are left on, as well as the feathers on the leg from the hock joint half way up the thigh, and those on the outer joints of the wing. The breast, the back, the wings next to the body, and the upper part of the thighs are picked clean. They should then be dry-picked without tearing the skin and the head, mouth, shanks and feet washed clean. Care should be taken to remove all clotted bloom from the mouth. Capons for the New York markets should be sent undrawn. Some Boston dealers receive them undrawn. They should be packed in boxes or flour barrels, washed clean and lined with white wrapping paper. Neatness and attractive appearance are everything with quick sales, and best prices are to be secured.

The method of killing is better described as follows: The fowl is hung up by the feet, the head in the left hand, and the whole body stretched to full length. The mouth is forced open and by means of a sharp, narrow-bladed knife held in the right hand the blood vessels at the back of the throat are severed with a single sweep. The knife is then turned and the point plunged thru the roof of the mouth to a point just behind and between the eyes. The brain is here reached, and

if properly stuck all feeling is then lost. Convulsions ensue, the muscles are relaxed, and the feathers come out very easily.

The carcasses are hung in a cool place, after dressing, until the animal heat is out of the body. In a room of a temperature of 40 degrees, it requires 12 hours to cool an eight to 10-pound capon fit to ship.—Boyd Michael, Atlantic Co., N. J.

POULTRY NOTES

Our boys received 28 cents a pound for their first broilers this season. In the first lot 70 were sent and found a ready sale. It is a good plan to let all go just as soon as they are large enough. They bring a better price then than later and it saves feed to ship early.

When a dozen eggs bring as much as a pound of butter, as is the case at this time I am writing, it makes people wonder if hens are not really more profitable than cows. It has needed some argument to convince our boys that it would not be wise to let the cows go and branch out more extensively into poultry. Seems to me the part of wisdom is to keep some hens and some cows, not making a specialty of either. Sometimes I am afraid we as farmers do run one thing most too hard. General farming is always a safe business.

The proposition, "If I can make a hundred hens pay why may I not do correspondingly well with a thousand?" is one that has a good deal of fascination for a great many people. But it is often apt to lead to serious results. Some men can stand this sort of business expansion, and more can not. It is best to be on the safe side. As we learn, we may let out the stakes a little. Be conservative—that's the thing that pays.

For some days our boys considered a proposal made by one individual to the effect that he would take their eggs at the city station, find a market for them, pay the regular market price and half the commission they were then allowing other men, and remit for every case as soon as sold. It sounded good, but would the man do as he said? There was the rub. He was a stranger and the boys were not quite sure. If men would always do as they say they will, how we could push out and grow! It is a bigger thing to learn to know men than it is to learn the poultry business.

Just watch your little birds and see how soon they will begin to dig and scratch round on the floor for seeds or anything else that is eatable. Here is the point of it. As soon as they show signs of wanting to work, give them work to do. That is the way they are born. Their whole nature craves exercise. It helps them to grow. Put them in a way to get something to eat to pay for their digging.

It is a good plan frequently to change the yard in which the chicks run. The very earth soon becomes soiled and bad-smelling if they are kept in one place too long. With a spade turn up a bit of earth in the chick yard now and then and watch proceedings. If you have any doubt that fresh meat is good for growing birds, it will pass out of your mind when you see the tussles for the worms that have been brought to light.

Where you do not feel that digging the earth up this way is best, place a good sized shallow box over in the yard and lay a big shovelful of fresh earth in it. The chicks will find something in it to busy themselves for a long time, and it will do them all sorts of good. They will get work and food both from it.

No matter what you may give your

little flock to eat or drink, let good pure water be all the time before them. Milk is worth its weight in gold to them, too. But never give it to them in a vessel that is open and deep enough to drown them. Simple fountains can be had for a few cents, or you can make them yourselves. To save one chick would be worth more than the cost of fountains for a hundred chicks.

Food that is stale beyond a certain point ought not to have a place on the bill of fare of any pen of birds, not even the most thrifty. As the weather gets warmer, some foods spoil quickly. Look well to this.—E. L. Vincent, Broome Co., N. Y.

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Collie Pups, the kind that bring the cows. Fine Irish Bloodhounds, Ferrets, Tomer Ducks. Nelson Bros., Grove City, Pa.

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Horticulture

SUPPLY AND DEMAND AND THE PRICE OF APPLES

By W. J. Wright

Perishable crops, such as fruits and vegetables, are always speculative crops and their price depends to a greater or less extent on the seasonal supply and demand. This is especially noticeable in such a crop as cabbage, which requires only one season for maturing, and from which few by-products are made. Cabbage is also too bulky to warrant long shipments, so that good distribution of the crop is seldom secured. It is not largely exported. With such a crop there is a tendency to plant large acreages following years of high prices and, if the season is favorable, the result is a large harvest and low prices. It is often the case in cabbage growing districts that farmers receive more money for their crop in years of poor crops than in years of good ones.

Most small fruits are decidedly more perishable than cabbage, but they require more than one season to reach full bearing, hence are not so frequently overplanted. They also have an additional advantage in that the surplus may be evaporated or canned in times of plenty. In many small fruit sections there are evaporators and canneries that operate only when the prices fall to a point which makes it profitable to do so. Such establishments are sometimes run in connection with wholesale markets and have a tremendous steadying effect on prices. More than these, however, the frugal housewife who stocks her larder with home-canned fruits in times of plenty and low prices, aids in keeping the price of these commodities from the extremes of fluctuation to which some other crops are liable.

Another class of fruits somewhat comparable to small fruits are peaches, plums and cherries. They are slightly less perishable than berries and it takes longer to grow a crop from the time of planting. Their enormous productivity, however, sometimes results in a local congestion and consequent low prices. Large losses as well as large profits are realized from these speculative crops.

The apple is our most staple fruit. It is not quickly perishable, stands shipment well, is used for a variety of purposes and may be converted into more or less imperishable products, such as cider and vinegar, or may be evaporated. Moreover, apples are exported, and the amount exported varies quite regularly and inversely as the price varies. That is, when the price falls below a certain figure it pays to export. This assists in steadying prices. (Figure 1.)

Apple production, however, varies considerably from year to year, largely on account of climatic conditions. The estimated crop of the United States and the average wholesale price per barrel in Boston, New York and Chicago are shown in the following table:

Table I

Year	No. Bbls.	Price per Bbl.
1895	60,500,000	\$2.39
1896	60,070,000	1.35
1897	41,530,000	2.00
1898	28,570,000	2.05
1899	58,466,000	2.70
1900	56,860,000	2.69
1901	27,000,000	3.90
1902	46,636,000	2.00
1903	36,000,000	2.35

1904	45,700,000
1905	24,350,000
1906	38,280,000
1907	29,540,000
1908	25,850,000
1909	25,400,000
1910	23,825,000
1911	27,000,000
1912	38,000,000

the rise in price which has placed apples in our cities in the class of luxuries. This decreased consumption has, in turn, reacted on the price so that it has not kept pace with the reduced supply. In other words, apples are not a necessity, and when they reach a certain price a great number of people can not afford them as an article of diet, fewer apples are purchased, and the price, therefore, fails to vary as widely as does the supply. In this respect fruit of all kinds differs from wheat, which is a necessity, tho wheat and its products have the advantage of

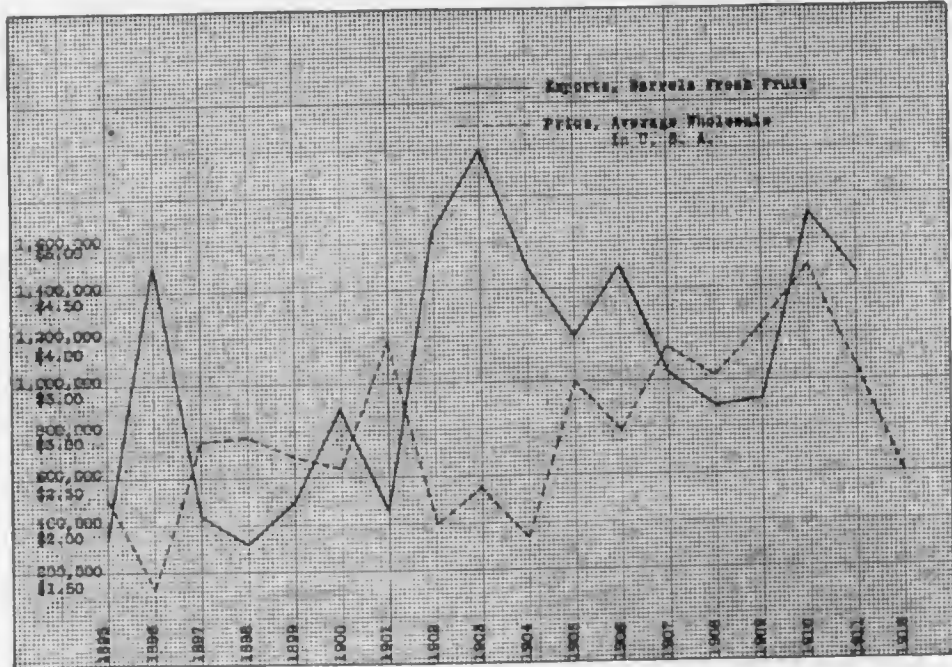


Fig. 1. Showing Apple Exports Increase as Domestic Price Decreases, and vice versa.

shown in Fig. 11 (next page). It is evident that the total production of apples in the United States has been much smaller in the past few years than in the few years beginning with 1895. The average yearly production from 1895 to 1900 was nearly 63,000,000 barrels, while the average for the last five years, including 1912, is a little more than 28,000,000 barrels. The average crop of the former five-year period was therefore 125 per cent greater than the average crop of the present five-year period. The average price per barrel for the five years beginning with 1895 was \$2.44. The average price per barrel for the last five years, including 1912, was \$3.68, or an increase of about

Table II

Year	No. of Bbls.	Dollars.
July, 1895, to July, 1896	360,002	\$930,289
" 1896, " " 1897	1,503,981	2,371,143
" 1897, " " 1898	450,470	1,500,651
" 1898, " " 1899	380,332	1,210,459
" 1899, " " 1900	526,636	1,444,655
" 1900, " " 1901	883,673	2,058,961
" 1901, " " 1902	459,719	4,628,886
" 1902, " " 1903	1,656,129	4,381,801
" 1903, " " 1904	2,018,262	5,446,473
" 1904, " " 1905	1,449,939	3,859,363
" 1905, " " 1906	1,208,989	3,751,375
" 1906, " " 1907	1,539,467	4,652,966
" 1907, " " 1908	1,049,545	3,660,854
" 1908, " " 1909	806,279	2,782,019
" 1909, " " 1910	929,028	2,966,316
" 1910, " " 1911	1,721,106	5,777,458
" 1911, " " 1912	1,456,745	5,409,981

50 percent. In other words, the rise in price has failed to keep pace with the decrease in production, and this in spite of the fact that our population has increased by 33 1/3 percent during this time, that our exports of fresh apples have increased by about 50 percent (see Table II), and that there has been a general advance in the price of all food stuffs.

It is apparent that the consumption of apples per capita has greatly decreased in the last generation. This has probably been partly due to the increased variety of tropical and semi-tropical fruits now on the market, but to a greater extent it has been due to

the rise in price which has placed apples in our cities in the class of luxuries. This decreased consumption has, in turn, reacted on the price so that it has not kept pace with the reduced supply. In other words, apples are not a necessity, and when they reach a certain price a great number of people can not afford them as an article of diet, fewer apples are purchased, and the price, therefore, fails to vary as widely as does the supply. In this respect fruit of all kinds differs from wheat, which is a necessity, tho wheat and its products have the advantage of

Judging from the past, therefore, it would seem that we may expect, within the next 10 years, a tremendous increase in apple production and a consequent reduction in price. It is doubtful, however, if the price will decrease in the same ratio, for as production increases and the price decreases, consumption will gradually increase, exports will become greater and distributing systems will be improved. But even so, the wise orchardist will prepare to reduce his cost of production to the lowest possible limit consistent with the growing of good fruit.

PENINSULA HORTICULTURAL MEETING

The joint summer meeting of the Peninsula Horticultural Society and the Maryland Horticultural Society met on the premises of Harrison & Sons, Berlin, Md., on July 31. The meeting proved a great success. The hosts of the day had provided a most hountiful "spread," the central dish being of fried spring chicken, with genuine Maryland biscuit, a most liberal supply of delicious lemonade, and other accessories.

A visit to the nursery grounds and the peach orchards by automobiles was a great treat to the visitors. The peach orchard was an especially wonderful sight, laden, as it is, with a bountiful crop. The visitors had ample opportunity to study methods and principles which have produced good results. After returning to the lawn, the meeting of the joint societies was opened by the vice-president of the Maryland Society, Mr. R. L. Graham.

Hon. Orlando Harrison, Mayor of Berlin, welcomed all present and expressed briefly his thorough confidence in the possibilities of the Delmarva Peninsula, and most especially that section of it, to produce in the greatest perfection and abundance all kinds of fruits and vegetables. He predicted a great future for all who shall engage in this business with the proper equipment, a sufficient knowledge of it and the requisite energy for the success of any enterprise. He spoke of the past when it seemed that all that was necessary was the "Negro and the mule" to win success, compared with the present when the latest and most efficient appliances devised are used. He declared that it was still required to use the "Negro and the mule"; that is, plenty of hard, persistent work. He praised the agricultural college and experiment station, as absolutely essential to the proper knowledge of agricultural pursuits, and especially in the realm of horticulture. He spoke of the transportation agencies and the use of the refrigerator cars as a necessity in profitable conduct of the production of fruits.

Mr. W. E. Sanger, president of the Peninsula Horticultural Society, made a brief response. Mr. W. P. White, president of the Council of Wilmington was introduced as representing Mayor Howell, of that city. Hon. Everett C. Johnson, of Newark, Del., former representative in the general assembly, made a thoughtful and spicy address.

President H. J. Patterson, of the Maryland Agricultural College, gave the leading talk of the day. He said that this was a chance "to see," to get first-hand information vital to the success of work of this character, and that next to seeing it was "to do" it. To do it was really the best education, the only way to gain real knowledge that would avail. Next to the successful production is the matter of successful distribution, and the key to distribution is co-operation. This has been tried with partial success by working thru the grange organization. Personal prejudice and want of loyalty by each for all has so far prevented that profitable consummation which we have hoped to attain. This is a proposition that is really vital to our success; with the great increase in the expenses of production and the necessity of fighting the pests of all character that now attack our growing plants, to keep the price within the reasonable reach of all classes of the consuming public, it becomes a real necessity to effect efficient distribution. The producer must control the product to within easy reach

appears in a couple of small patches on a farm?—H. W. S., Philadelphia, Pa.

You can get rid of the large ant hill in your corn field easily enough by making holes in it with a stick like a broom handle to a depth of two feet from the top, and not more than two feet apart, and pouring into each one half teaspoonful of the liquid known as carbon bisulphide, and covering this with a wet blanket so as to keep down the fumes. This will kill all the ants within a few hours, and you will have no further trouble.

I have had good results in destroying ants by the use of benzine or gasoline, poured into holes in their nests, and if you will make the holes close together, say a foot apart, you may also be able to destroy them with out the necessity and expense of getting carbon bisulphide, altho the latter is not very expensive if you find where it can be obtained. As a rule, most druggists handle it. It is a clear, volatile liquid, which gives forth very offensive odors. It is inflammable, and, therefore, fire should be kept away from

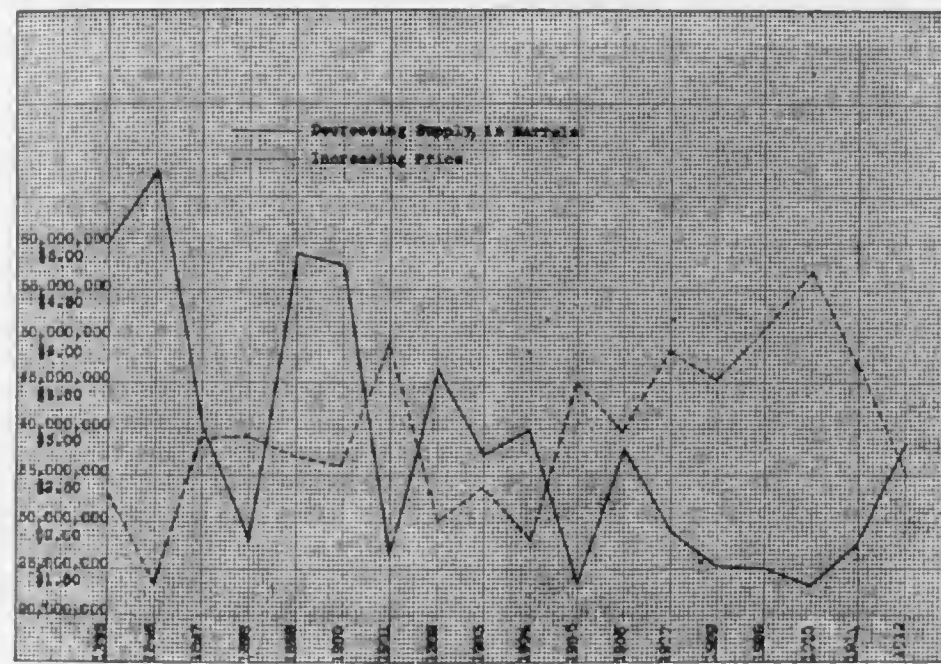


Fig. 11. Showing How the Price of Apples Increases as the Supply Decreases, and vice versa.

of the consumer. To this question the audience's careful and thoughtful attention was asked, for upon its proper and early solution so much depended.

Touching on education, Mr. Patterson regretted the insignificant sums appropriated toward the rural schools of Maryland. These are schools, and their proper and successful maintenance are vital to the agriculturalist. This is a thoroughly a business proposition. Money thus expended by the state yields a handsome and ever increasing revenue by the increased efficiency and productive capacity of all of the citizens thereof. Give to your college and schools the benefit of your cordial support on all occasions. Watch their interests with jealous care, looking to the general welfare of your state and country and all the people thereof.

The Mayor of Baltimore was unable to be present, but he was well represented by his secretary, Mr. Robert D. Lee. His talk was one of the best we have ever listened to, noting especially the interdependence between city and country and the service due from one to the other. Short addresses were also given by Mr. Wm. H. Anderson, superintendent of the Maryland Anti-Saloon League; Secretary Wesley Webb, of the Peninsula Horticultural Society, and the Rev. D. E. Clair, of Penn's Grove, N. J.—H. T.

HORTICULTURAL QUERIES

Remedies for Ant Hills and Canada Thistles

Will you kindly advise me of the most effective way of destroying an ant hill about 10 feet in diameter in my corn field? What is the best method of getting rid of Canada Thistle where it

it. These fumes are heavier than air and will penetrate the ground when it is poured in the holes, as directed.

For Canada Thistle, there is nothing better than cutting it out as often as it appears above the ground. Put the field into cultivation, and cut out the Canada thistle with a hoe. Two years' treatment of this kind will get rid of them. Moving them off will not have the desired effect.

An Orchard Cover Crop

I want to sow my peach orchard with a cover crop. I have often tried crimson clover, but it has never been a success. I used rye at one time, which worked well for me. What is your advice on this point?—A. S., Hanover, Pa.

I much prefer crimson clover to anything else as a cover crop for an orchard. I advise sowing crimson clover anywhere from the 15th of July to the last of that month, or even up to the middle of August, sowing eight quarts to the acre, with a seed sower, and harrowing it afterward. I would not sow rye before the first of September. I have a heavy crop of peaches on my trees, and am thinning the fruit considerably.—H. A. Surface, State Zoologist.

Growing Tomatoes.—For the tomato grower anxious to increase his yield and thus his profits, also, Bulletin No. 163, issued by the Purdue Experiment Station, should have unusual interest. This bulletin, which is mailed from Lafayette, Ind., discusses source of seed, methods of starting plants (comparing the yield and profits from plants started in the field with those started in the hot bed or greenhouse), cultivation tests, spraying and fertilization.

POTASH PAYS

Profit in Wheat

Wheat is profitable if the yield is good. A good yield is insured by using the right fertilizer.

No crop gives better profits for a small fertilizer expenditure provided intelligence is used in buying, and a fertilizer is used that is suited to the soil. Almost any fertilizer will increase the wheat crop, but why not get the one that will give the best profit? This is the kind in which the phosphate is blended with

POTASH

Insist on 6 to 8 per cent. of Potash in wheat fertilizer. Some of the best growers use 10 per cent. If you have trouble in getting such brands buy Potash and add it yourself. We will sell it to you in any amount from 1 bag (200 lbs.) up. Write us for prices, naming amount needed, and for free book on "Fall Fertilizers." It will save money for you.

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Timothy, all kinds of clover and light grasses. New seed rye. Pool seed wheat in season. Satisfaction guaranteed. Prices and samples on application. C. J. COVELL, 254 E. 12th St., New York City.

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SEED. Large blennish cultivated variety, for hay, pasture and fertilizer. Price and circular how to grow it sent free on request. E. Barton, Box 8, Edinburg, Ky.

Seed Wheat
—Extra fine, pure, clean seed of Red Mediterranean, Gray, White and Red. Write for samples and prices. C. C. VALE, Rt. No. 16, New Carlisle, Ohio.

SEED WHEAT—Red Wave, a smooth variety, reliable, a blended wheat, medium and small, contains no chaff. \$1.25 per bag. C. E. KEMMERER, R.F.D. No. 1, Bethlehem, Pa.

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Don't put it off any longer. You are losing hundreds of dollars every year by farming without tile. Work in any soil. The price is within reach of any farmer having 20 acres or more to tile. Write for full information. The Jeschke Mfg. Co. Box 112, Bellevue, Ohio.

FARMERS—Save money. With a sewing Awl, look at the awl with marking wheel. Aluminum won't rust. Complete with two needles. Price \$1.00. Acorns mailed.
RODA MFG. CO., Box 92, Detroit, Mich.

The Dairy

MILK PRODUCTION ON EASTERN FARMS

Where is the Profit?

"I am going home and sell every cow on my farm," remarked one of the most extensive producers of market milk in this end of the state, disgustingly, a few months ago.

"What's the matter with the cows?" queried a fellow member of the milk bucket brigade.

"Nothing the matter with the cows. I've been arrested and hauled into court because I have sold milk that was slightly below the official butter-fat standard. I installed an expensive equipment and gathered together a choice herd of Holstein cattle, and by careful effort built up a reputation for cleanliness and uniformity of milk. I am the victim of one of the most unjust and contemptible acts of legislation ever placed upon the statute books of the state. You fellows can continue the crooked game and remain in silence as long as you wish, but I am going to sell my cows. I might place a few bets in Wall Street, where my money will be in less jeopardy in a recognized sphere of gambling."

Milk production in the eastern states is reaching an acute stage. So much non-essential and confusing advice and so many rules and restrictions put upon the business have discouraged dairymen. It can not be denied that the producer owes serious consideration to the persons who consume the milk he produces, but they can not expect him to conform to all of their restrictions and regulations and produce a germless milk for 14 cents per gallon. It costs more to produce good milk, and the addition of this increased cost to a business that is already being conducted at a loss has caused many dairymen to refuse to do anything in the way of improvement.

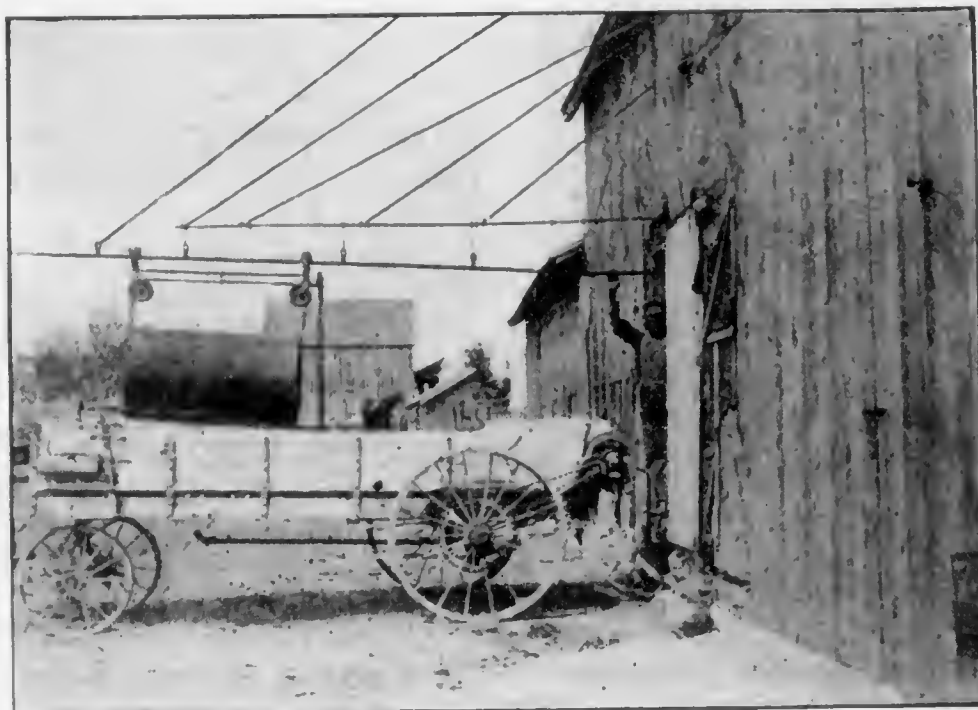
Every milk producer realizes that he can not continue in the business many years under conditions that have changed so radically in the past decade. When one is caught between two millstones he is apt to realize that he is being squeezed. Between the many restrictions and regulations and the high price of cows, feed and labor, the dairyman is playing a game so desperate that such innocent pastimes as "bucking the tiger" or "playing the ponies" look mild in comparison.

Hornee Greely, in his palmy days as editor of the New York "Tribune," became intensely interested in agricultural problems and as a method of demonstrating to Empire State farmers that their farm methods were susceptible of improvement, bought a farm to be used for experimental purposes. One of his hobbies was that eastern farmers could raise hogs profitably, and by way of demonstration he invested in a drove of stock hogs at \$8 each. After consuming \$5 worth of corn per capita, his porcine educators were turned over to a killer at a figure that netted him a loss of \$2 per head. When his farm manager laid a statement of the transaction on his desk Greely remarked: "It's all right. We made a little money on the hogs, didn't we? Where we lost was on the corn."

This anecdote is applicable to the case of milk producers in the East. They feed cows with the idea of accumulating a manure pile upmost in their minds. Incidental to this is the conversion of roughage into a concentrated and salable product. Labor,

interest on the investment and the market value of the roughage are not considered as items of cost, and even when the milk is marketed at what appears to be a loss, the deficit is charged to the land. What other business on earth could stand such methods of high financing?

Many farmers say that they are fixed for the business and are going to produce milk anyway. As a rule it is sound policy to so shape things, but yet if the cows, labor and feeds are so high that you can make a change profitably, what is the use of sticking to a sinking ship and working hard with nothing to show for it. Of course, there is the counteracting argument of keeping up the fertility of the soil, and it is a good one, too; but that can not be made the sole consideration in farming. One must keep up and improve his plant the same as the manufacturer should, but if he can not make a profit above this, again, what is the use? He should have market prices for his feed used, pay for labor, loss, interest and as much more as he can get for his supervision. There is a limit to the amount of money one



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can lose every year thru a business that is so cheap and perverted that the only profit comes thru the gain in fertility from the presence of the cows on the farm, and that limit has been reached in the milk producing business on many eastern farms.

Careful investigation of the price of milk in eastern cities of over 40,000 population shows that the producers receive only from a third to a half of the sale price to the consumer. The dealer and retailer allege that they are making only scant profits from their business. For every cent a gallon advance in the price of milk to the producer the dealer and retailer have added a cent to the price per quart to the consumer. The consumers have gradually had to pay more for milk, while the producers are becoming fewer in number and are producing it at a loss. In some large cities the use of fresh milk has decreased considerably the past two years.

Milk producers have been criticized severely because they do not keep high-producing cows and produce milk at less cost. College professors and agricultural leaders have told them how simple it was to weed out the low producers, buy a registered bull and grade up a herd of cows capable of producing 10,000 pounds of milk a year. All of this advice sounds superficially pleasing to the man who has never bucked the game of producing market milk. Theoretically it is the short cut out of the dilemma, but few have found it the practical route.

The cows on the farm where market

milk is produced can be perpetuated only by securing a supply of new recruits each year. The fully developed, vigorous dairy cow that is transplanted to the dairy where she is fed to her full capacity soon plays out. Possibly if a man had two farms, and kept his heifers under suitable conditions until they became sufficiently developed to handle large quantities of grain feeds, instead of putting them in the milk-producing herd at an early age, he might find it profitable to breed and raise his own cows. To those who doubt this statement, I will quote from a bulletin of the Storrs Experiment Station giving the records of the Connecticut Agricultural College herd for the past five years, together with some notes of Professor Trueman's:

"The college herd consists of Jerseys, Holsteins, Guernseys and Ayrshires. It contained 25 milking cows on the average for the five years included in the records. The cows have virtually been raised on the college farm. Only four were bought in the five years, and only one of those remains in the herd today. Well-bred bulls have been kept and a constant

average, while others will, for various reasons, such as accidents, abortion, injuries, or inferior capacity, fall far below that average.

All figuring on the cost of milk production should be based on what happens on the average, and not on what some of the best individuals in the herd produce. Many writers have told us how to build up a herd of cows that will produce an average yield of from 8,000 to 12,000 pounds of milk, containing 4 percent of fat, a year, but my experience and observation have convinced me that when a herd of dairy cows reaches an average yield of 7,000 pounds of milk a year (and are held up to that average by forced feeding), further improvement is rather uncertain, and that the herd will quickly drop below that average unless they have plenty of food and the best of care.

City boards of health should have the co-operation and help of milk producers, but they must adopt a live-and-let-live policy, rather than put in force arbitrary rules and regulations which will force many dairymen out of business. The most serious problem at the present time is the fact that the price of milk will eventually be forced so high that if any of the city babies die, it is likely to be the ones who will starve to death from the lack of milk its parents can not afford to buy, or the children of the city mothers whom city health boards have so scared that they will try to rear their babies on some patent food that will kill them, rather than from impure milk. Let the city babies have just such milk as the country babies have. Get after the railroad companies that handle the milk, teach your city dealers to keep their milk clean and sanitary and your city customers how to handle it when it gets into their hands. Teach them how to care for their ice boxes and cleanse their milk bottles. Send your inspectors into the country to study the producing end of the business. Then, and not until then, can you bring about any great improvement in the quality of the milk supply of your cities.—W. Milton Kelly, Erie Co., N. Y.

FILLING THE SILO

The time is near when silo filling will be in order. Every farmer having silos to fill should make preparations to do the work and do it right. If no machine is owned by the farmer or a group of farmers, from eight to ten ought to get together and make plans to exchange work. Find a good man who has got silo-filling machinery, and make a contract with him to fill the silos. Whatever the number, let him know which end of the route he is to begin on; then let him go straight thru, doing each man's work as his turn comes.

It takes from 9 to 15 men and from 2 to 5 teams to get the corn to the cutter and put into the silo. An operator, if he has a good machine, can fill a 12x30 foot silo in 10 to 15 hours, according to the corn. Much depends on how the corn is put to the machine. If 10 men co-operate it will take from 10 to 15 days to fill 10 silos. Then, if enough corn is grown, it will take from 5 to 10 days to refill again. This second filling is where the profits of the silo and silage come in; as by the second filling from 20 to 30 tons more silage can be stored. On first thought this may seem unimportant to the average farmer, but let us see. Suppose there are 20 to 30 tons of silage left over for late summer and fall feeding. This is a valuable asset for there is no feed that can be gotten to the cows to supplement late summer

and fall feed as cheap as good corn silage.

The silage should be cut not over one-quarter inch long, and the knives should be kept sharp, changing from two to four times per day. The silage should be kept evenly distributed and well tramped around the outside or edges. Low wagons should be used for hauling, with a good flat rigging. The teamsters should help load and unload. Never change teams to wagons. Better have an extra team than to bother changing. Corn handles much better when cut with a corn binder, and there is much less danger of getting stones in the machine. The corn should be cut when it is starting to glaze, altho if the corn does not have time to mature it will make a fairly good feed.—Joseph E. Fischer, Tioga Co., Pa.

THE TEN-COW DAIRYMAN

Prof. C. A. Larson, of the Dairy Department, Pennsylvania State College, has the following to say about dairy cows and the ten-cow dairyman:

"The average production of the cows of the United States is too low.



APPROVED TYPE OF CLOSED TOPPED MILK CAN.

Less than 100 pounds of butter-fat is produced per cow per year. These same cows could be 260 pound producers by proper feeding and management. The five and ten-cow dairyman is given the credit for keeping down the average production. He does not feel that he can go to the trouble of balancing his rations nor to the expense of studying the most approved methods.

His failure to attend such shows as the National Dairy Show is a notable example of this. Some do and are benefited, but this class of dairymen which should be the backbone of our great dairy industry stay at home and say: 'Let the other fellow go, he has 30 or 60 cows and can afford it.'

The National Dairy Show is a great educational institution. More practical, useful and valuable information can be obtained in a week at a show of that kind than in any other way. It is a short course for dairymen. The Dairy Show is now in its eighth year and its patronage is constantly increasing. The one noticeable fact about this attendance is that it is made up of the men from the larger farms. Producers of pure-bred animals and the large milk producers come in large numbers, but the men who are only producing a comparatively small amount of milk, the men who are delivering this milk to the creamery or cheese factory, and the men who are making butter on the farm apparently do not appreciate the value of the show.

The most good will be accomplished when this class of farmers take advantage of the Dairy Show. To them there are even more lessons to be learned than for the large producers. The value of meeting the most successful dairymen from various parts of the country and having an opportunity

to discuss difficulties and learn new methods can not be over-estimated; but besides this there is an opportunity to see the best stock that is in the country; to observe the methods used by the best feeders and breeders, and from a direct and visible standpoint there is an opportunity to see every line of equipment, from the largest building to the smallest utensil. Building materials, silos of various makes, fences, stable devices, dairy house building and equipment are only a sample of the exhibits that were on display at the last show. Different makes would be seen side by side and therefore easily compared. No doubt many of the visitors more than pay the expense of their trip thru a purchase made intelligently after comparing various kinds of equipment.

"The dairy meetings especially designed for the dairy farmer, lectures and demonstrations in the handling and caring for animals on the farm, the making of butter and the milking machine in operation are only a few of the attractions.

"To the man who only has a few animals the expense of attending the show may be prohibitive. In a case of this kind communities could to advantage arrange to send delegates providing their expenses, and then at meetings during the winter the various subjects of most interest could be discussed. The Dairy Show with a following of this kind would be the greatest dairy school in the world."

The National Dairy Show is to be held this year October 23 to November 1st, at Chicago.

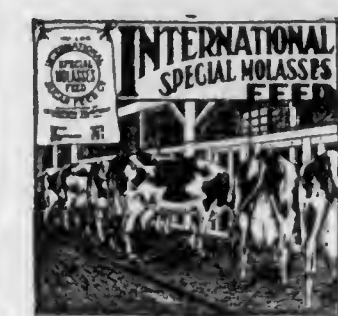
SUCCULENT FOOD FOR DAIRY COWS

We know that cows usually give the largest amount of milk when they are on good pasture. Their chief feed is, then, new-grown grass. This would indicate that such feed is better for milk-production than are the dry feeds fed in winter. Green feed is more easily digested than is dry, coarse fodder, such as hay, fodder corn, and corn stover. Moreover, less energy is required to digest it, it tends to keep the body and digestive system in better condition, and it stimulates the appetite. We know this from human experience. In the winter, when vegetables are scarce and we eat potatoes, bread and meat for a long time, we become tired of them, and crave something succulent, like fruit or green vegetables. In well-regulated homes, such food is supplied by canned or fresh vegetables and fruits.

The barrel of apples in the cellar is not especially valuable from the standpoint of the amount of nourishment contained. The great value of the apples is due to the fact that they aid in toning up the whole system and satisfy the craving for something succulent. In like manner it pays to supply the live stock on the farm with something to take the place of the green grass they get in summer. The whole ration need not be of a succulent material, but that a portion of it should be such is quite essential to best results. Just as an apple or two each day is good for a boy or girl, so are a few pounds each day of succulent feed, such as roots or silage, good for farm animals.—T. L. Haecker, Minn. Agri. College.

Note.—The cheapest and most valuable succulent feed that can be provided for the regular ration is corn silage. More silos are being built each year. They are almost indispensable in the profitable dairy, and will make many unprofitable dairy farms show a good return.

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IMPROVE CONDITION OF YOUR COWS.

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HIGH GRADE HOLSTEIN COWS. We have on hand 100 choice Holstein cows, deep heavy milkers of the choicest individuality and breeding, due to freedom in September and October. Also 75 two and three-year-old heifers nicely marked and of excellent breeding. Come and see our stock or write your needs before purchasing elsewhere. **F. P. SAUNDERS & SON Cortland, N. Y.**

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FOR SALE—100 high grade Holsteins that give 50 to 60 lbs.; 25 reg. cows that give 60 to 80 lbs. of milk a day; 5 reg. yearlings; 15 reg. bull calves at farmers' prices. Branch address: Plumtree Farm, Fairview Village, Pa. **REAGAN BROS., TULLY, N. Y.**

AYRSHIRES—We have for sale young Ayrshire bulls, ranging in age from one month to two years old from some of our choicest A. R. cows. All official records. Send for list. **SOUTH FARM, Willoughby, Ohio.**

Holstein Friesian Cattle. Royal breeding. Get HOME FARM, Center Valley, Pa.

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Live Stock

PROFIT IN HOT-HOUSE LAMBS

An income of \$4,000 from 19 acres of potatoes and 100 ewes producing hot-house lambs was reported by George W. Jackman, of Steuben County, N. Y., last year. During the 10 years that he has been growing potatoes and lambs, more than half his income has been derived from sheep. At first, his land would produce but 100 bushels of potatoes per acre, but mainly by applying sheep manure the yield has been brought up to 300 bushels. They are certainly a paying crop, these lambs, but not so in all hands.

To prepare a good lot of mothers for his lambs, Mr. Jackman prefers to cross a Tunis ram with Delaine ewes. For the lamb crop, he prefers a Tunis or Southdown ram with these sheep, according to circumstances. The ram is turned in with ewes in June or July, but he considers it a good plan to turn in ram as soon as the lambs are weaned. Lambs are best when weaned in December, and they ought to reach 55 to

FORAGE CROPS FOR SWINE

The Missouri Experiment Station has just completed an exceedingly interesting series of tests in the value of forage crops for swine. The value of pasture in the production of pork has been so well established that there is left no room for argument. The question of greatest interest to hog growers now is the kind of pasture that will yield the greatest profit. This is the question which the Missouri experiments seek to solve. Because of difference in soil and climatic conditions, the results in these experiments may not be directly applicable to our eastern farms, but the study of the various crops available is of interest, and should be of value here. The tests have run over a period of four years or more, and have made a study of the comparative pasture values of blue-

grass, alfalfa, clover, rape, rape and oats, rape and oats and clover, sorghum, cowpeas, soy beans, rye, corn, and corn and cowpeas. These have been tested out in single crops and in rotation running over a period of four years. Results from the different crops are commented on briefly as follows:

Bluegrass.—Bluegrass can be pastured early, furnishes forage for a long grazing period, may be grown on land not suited to cultivation and has a small cost of production. Records kept for five years place bluegrass first in value as a hog pasture crop. In the five years it yielded pasture for an average of 165 days per year, pastured 12 hogs per acre, was accredited with 324.6 pounds of pork per acre and required only 4.3 pounds of supplementary grain per pound of gain. Its average value for the five years, with pork at 6 cents per pound, was \$19.47 per acre.

Alfalfa.—Perhaps there is no forage crop that will produce as much pork per acre as alfalfa. It requires no supplementary grain except corn. It should not be pastured too closely, and it is preferable to arrange pasturing so that at least two cuttings of hay may be taken off each year in addition to what the hogs eat. One year's test showed that alfalfa could be pastured for 163 days in the year, caring for 10.3 hogs per acre, and yielding 1,310 pounds of gain per acre. The gain credited to alfalfa alone was 591.8 pounds per acre. Its per-acre value with pork selling at 6 cents per pound, was \$35.51.

Clover.—Clover fits into the rotation

best and is one of the best adapted forage crops. It was found to rank next to alfalfa in value as a forage crop. Corn was the only grain needed to supplement the clover. It should be well started before turning into, and should never be pastured closely. Two years' work with clover showed that it could be pastured about 133 days in the year, would pasture an average of 11 hogs per acre, gave a total gain of 1,211 pounds per acre, 567.7 pounds of which were credited to the clover alone, and it required 2.95 pounds of supplementary grain to make one pound of gain. With pork at 6 cents per pound, clover averaged a value of \$34.05 per acre as a forage feed.

Rape.—Rape was found to be one of the best forage crops. It grows rapidly, makes a large succulent plant, is palatable to hogs, is a cool weather plant and does best in early spring and late fall. If not pastured too closely it will come on a second time, and it will make a good fall pasture in addition to spring forage. The test with rape alone showed that it could be pastured for about 100 days in the season, would pasture 19.8 hogs per acre, made a gain of 770 pounds per acre, 393 of which were credited to rape alone. It required 2.74 pounds of supplementary grain to make a pound of gain, and with pork at 6 cents per pound, it showed a forage value of \$23.57 per acre.

Rape and Oats.—This combination was seeded at the rate of 5 or 6 pounds of Dwarf Essex rape and one bushel of oats per acre. It did well and pastured an average of 9.3 hogs per acre for 126 days in the season. It produced at the rate of 1,002 pounds of pork per acre, of which 354 pounds were credited to the forage. It required 3.6 pounds of supplementary grain to make a pound of gain, and with pork at 6 cents per pound, showed a forage value of \$21.25 per acre.

Rape, Oats and Clover.—The above combination, with 8 pounds of clover seed per acre sown at the time of seeding the rape, gave still better results. It pastured an average of 10.6 hogs per acre for 90 days of the season, giving a total of 766 pounds of gain. With pork at 6 cents per pound, it showed a value of \$24.57 per acre.

Cowpeas.—Five years' trial with cowpeas as a forage showed an average pasturage of 32.8 days per year, caring for 12.7 hogs per acre. It produced a total of 331.9 pounds of pork per acre, of which 212.7 pounds were credited to the forage alone. It required corn only as a supplementary feed, and with pork at 6 cents per pound it showed a per-acre value of \$9.16.

Soybeans.—Soybeans did not give satisfactory results, largely owing to poor growth and short season. It afforded pasturage only 31 days in the season, caring for 14.3 hogs per acre. Its value per acre, with pork at 6 cents, was \$7.05.

Upon the basis of 6 cents per pound for pork, rye grain showed a value of

\$12.70 per acre; corn and cowpea forage crops, \$19.48; corn alone (hogged down), \$21.79.

Jersey Cattle Club Notes.—Report of proceedings of the 45th annual meeting of the American Jersey Cattle Club is now ready for distribution. This report is made up in a 70-page booklet, and in addition to minutes gives full report of officers, record of club at 1912 fairs and shows, changes in scale of judging points, discussion on changes in constitution, etc. The report will be mailed from the office of the club, 321 West 23d St., New York City.

SHEEP

The Reason Why!

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Kingsville, O., July 17, 1913.
Mr. R. C. Parsons, Grand Ledge, Mich.
Dear Sir: I received Oxford Sheep yesterday in good shape and will say he is a peach. When I got home with sheep a couple of my neighbors came over and looked him over. They said he was the biggest sheep they ever saw and the best around here. I will keep the crate. I paid the express agent \$2 for it. Thanking you for your prompt delivery, I remain, Yours truly, Arthur L. Beck.

At one time men drove many miles in search of Rams; nowadays "PURE BRED Sheep are ordered by letter of 'The Sheep Man of the East'."

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Grange

McSPARRAN'S GRANGE NOTES

The Single Tax As a Relief



In the July 12 issue of the Pennsylvania Farmer I see an article in which the statement is made that the single tax system is what we

inequalities in our present condition.

We have given this subject some study (not as much, however, as we should like to have done), and while appreciating many good features about the proposition, I can not feel assured that in continued operation it would not work out abuses as great or nearly as are found in our present system.

I can understand that it is not right for a person to hold land in a district that is highly improved, and allow the value of that piece of property to increase in value simply because of its proximity to other property, the owners of which have spent capital, labor and brains in the development of their holdings, while the owner of the unused piece of land has not even kept down the weeds and rubbish. But on the other hand, we can not feel satisfied as to the result of the working of a land value basis in the following situation:

Here is a small town, or a growing section of a larger town. The buildings, as far as it is built up, are comprised of residences and small business places. Then comes some shrewd business man who has the foresight to recognize the future possibilities of the neighborhood and proceeds to build a million-dollar business block. The presence of that splendid industrial plant in the neighborhood can not fail to have the effect of raising the land values in that vicinity very much. Now that appreciation in value does not affect A, who owns the business block, because the volume of the business done in his plant will make the taxes on the property seem very light. But what about B, C and D, who own the other three corners of the street intersection? B is a resident who owns his home and has fitted it to suit his needs and pleasures. But as the land values increase, the taxes upon his home increase, and to such an extent as the years go by that he will be compelled to leave his home and go to a neighborhood where land values are much smaller.

C is a groceryman on another corner. He does a good business, but not of skyscraper size, and with B moving out his chance of increase of business is slim. But his taxes are, year by year, mounting higher and higher. He has not the money or inclination to build a skyscraper, and if he did it would hardly be possible for the business of the neighborhood to increase sufficiently to warrant a second large building of that kind. Now under the single tax system what would happen to the groceryman? The case of D is similar to that of B and C. If it were possible to develop a community from a center, and expand in a steady and even ratio from that starting point, the land value would be a decidedly accurate and just basis of taxation.

Would not the case be similar in a farming community? The land value that would be the basis of taxation would be as near as possible an average for the community. The farmer then that had a finely improved property would pay the least proportional tax, and the person who had the least

improved place would pay the largest proportionate tax. I can see how such a system would tend to make the poorly equipped farm come up to the average or above, in order to escape the penalty of increased taxation, but suppose he is doing the best he can. He may not have the business ability, or sickness in his family may handicap him. What then? Such a tax system would, I think, not only unduly burden such an one, but be a preventive if he wished to sell. I would like to see this phase of the subject discussed by someone. What has been said is not in criticism, but arises from a desire to know the true status of the case.—John A. McSparran, Lancaster Co., Pa.

SUBSTANTIAL COUNTRY LIFE

Moving to Town

Our populace shuns country life: they do not mind the spending of a day in the country, and rather like it, but the assumption of country life "for good" must not be talked of. What wonder? The farmer who has "made money" leaves his old neighbors, his long cultivated farm and its sentiments, and hikes off to town in his endeavor to take life easy and afford the so-called "social advantages" to himself and family! Even the renter and the young farmer seem to think that there is no place for a good time except "town" on a Saturday night.

The trouble is all in their minds, both of them; our own distorted opinions have been allowed to develop such a tyranny in our minds that frank and reasonable consideration of the resources for substantial country enjoyment have been notoriously stifled to our crazed endeavor to mark time and keep pace with the city, town, and industrial worker whose physical and social horizon "touches the ground" among the parks, picture shows, rinks and pavilions that constitute his meager conception of a high time.

If there ever were a genuine "backslider" the farmer is often one. With fanatical zeal he "tears into" work for a few years, knowing nothing else. He is after the cash, and to all observers from afar he is the man who plows, who produces the sirlin; the man in cowhide boots. He hasn't time to develop a select mental and social personality; what's the use? When he has made the "dough" he can move to town, his wife and daughters can "abandon" city refinement and he can "get away from work," and possibly "be somebody," too! I have observed that the farmer and his family who have spent 20 years, even, in the unalloyed drudgery of making money on the farm are ill designed to blend into the well developed fabric of "city ways." Often this makes a fine sample of social "wart."

We have largely outgrown the county fair, the country church, the country school, the picnic, and a dozen other means of rural diversion. The trouble with the consequent condition is that resourceful social genius in rural communities has not discovered or created some substitute for the activities that gave country life a personality and a vital interest. The farmer has blindly aided the city man as his own mental and social diversions grew out of date; the amusements of distinct rural interest have been allowed to die out because rural ingenuity, rural pride, and rural social ideals languished. Like the fabled salt merchant with his mill, the farmer has been with his farm and his surroundings: "Salt, salt, nothing but salt."

There is no use thinking about "the good old times"; they were not half so good as many presume at this distance to think. We do not wish to go back

to the time of the log school house, the hardshell preacher, and the hoe down! With productive ingenuity, with vital interest and with practical and sentimental feelings it is the privilege of country people to "grow in spirit" as their crops grow, only by care and fostering of native and accessible fertility.

The farmer has to get away from some of his narrow ideas before the city will "look like thirty cents" to him. The farm, as a normal productive agency, has never, and likely never will, be a source of "big money"; therefore the farmer should not think of putting on "airs" with the man engaged in the more spectacular commercial ventures. The farmer must become a keeper of accounts, and the manager of keen foresight, who maintains and develops his business plant with yearly system. What a desperate sight is the dilapidated homestead from which a fortune has been wrung in drudgery, but now gone to rack and is uninhabitable by the farmer who has presumed to be the manager (!) The farmers in any community must learn that they have no one to blame but themselves if they have poor schools.

The writer states and challenges contradiction to the fact that many of the least productive townships (naturally) in this state have modern schools and social centers of high order, and that these have sprung up from the mental and social attitude of the people, where in many cases "broad acres" maintain rule and ill-kept one-room schools.

The farmer should learn that his country home may be just as comfortable and just as modern in detail as the house he may buy in town. His lawn in the country may be kept up just as easily; his bathroom, his light and his heat may be equal in every respect, if only he decides to say the word. We do not mean to say that all can afford such; but all who can afford to move to town to get it, can have it on the farm.

The farmer should learn not to sacrifice the pleasures and diversions of the day and the hour to the greater and more complete diversions that he hopes to get "some day." Work can stifle all feeling, all pleasure, and even all hope, if one lets it occupy life like a tyrant. If the farmer worked 10 percent less, made 10 percent less money, and had 10 percent more time for rest, recreation and diversion, wouldn't many of his "problems" clear up and become easy?

Many a farmer has lived his whole life on the farm, with satisfaction, with

social credit, and enjoying all the substantial advantages of town life; the man who moves from farm to town has not solved his problem, but has merely renounced the effort and the privilege. —Geo. P. Williams, Delaware Co., O.

Grange Scholarships.—Grange scholarships for 1913 have recently been awarded by the New York State Grange as follows: M. G. Barrett, Medina, Orleans County; A. B. Tuttle, Eastport, Suffolk County; N. J. Gilmore, Clay, Onondaga County; H. Stevens, Oswego, Oswego County; H. N. Young, Lowville, Lewis County; L. R. Bonnell, Waterloo, Seneca County; Harold Burdick, Little Genesee, Allegany County; H. J. Evans, New Lebanon, Columbia County; R. Coming, Clayton, Jefferson County; W. H. Bradley, Interlaken, Seneca County; H. Crowell, Centerville, Allegany County. There were 36 candidates who took the examination.

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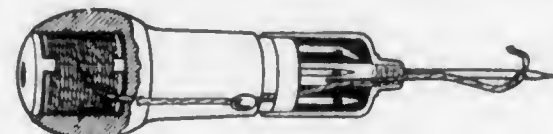
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PENNSYLVANIA FARMER, 214-18 South 12th St., Philadelphia, Pa.

Jimmy's Get-Away.

By Howard Dwight Smiley.

"Say, Cully, wotcher in fer, any-how?"

The speaker, Red Kelly, a rough, middle-aged hobo, stood with his face pressed against the bars of his cell, gazing across the corridor.

Jimmy Graham, in the cell opposite, raised his head slowly and looked thru the bars at his questioner.

"Speaking to me?" he asked indifferently.

"Yep; I was askin' yer wotcher in fer," answered Red, rough but kindly.

Jimmy rose wearily from his cot and paced several times up and down the narrow confines of his cell before replying.

"As near as I can make out," he said finally, "I'm in because the stiff-necked Johnny Wise that the people of this county use for a judge, wouldn't give me a chance to explain myself. I was pinched for stealing a ride on a freight train."

"Hittin' the road, hey?" grinned the other delightedly. "Dat's wot dey got me in fer, too. De judge gimme ninety days, yesterday."

"I got six months," said Jimmy bitterly.

"Gee!" gasped Red, an expression of horrified surprise overspreading his face; "gee, dat's fierce, ain't it! Wot'd yer do, bust a seal?"

"No, I suppose the judge handed me the extra three months because I tried to tell him that I had a wife and baby to support, and was on my way to a job that had been promised me, in Jackson. He said that every hobo who had been before him since he became a judge had tried to spring that gag on him. Told me I was a liar and a common bum and then handed me the six months, saying he hoped it would be a lesson to me, and that perhaps I'd be willing to settle down and be decent when I got out. I've been in only ten days."

At this juncture the turnkey entered the corridor and handed a letter thru the bars to the young man. He then turned and began unlocking the cells for the purpose of letting the prisoners into the corridor for their daily exercise.

Jimmy seized the letter eagerly and quickly opened and read it. The contents were evidently of a startling nature, for he turned very pale and collapsed on his cot with a groan.

He was aroused a moment later by the voice of Red, who stood in the door of his cell, which the turnkey had unlocked and opened.

"Wot's de matter, pal?" he asked. "Git some bad news?"

Jimmy rose from his cot, thrust the letter into his trousers pocket and stepped out into the corridor. His face was still white and drawn, and he seemed to be almost at the point of bursting into tears.

"This is awful," he said, as they walked slowly down the corridor. "It's the limit. I've got to do something."

"Wot's de rip, anyway?" asked Red.

Jimmy slowly drew the letter from his pocket and handed it to his companion, who read it slowly and laboriously. It contained the following:

Care Collins County Jail,
Collins, Michigan.

Dear Sir:

I have been asked to inform you that your wife is very seriously ill, and practically destitute. Unless you are heard from at once she will be placed in the charity ward of the City Hos-

pital and your child sent to the Foundlings' Home.

Yours truly,
SILAS CHURCH, M. D.

"Gee!" commented Red as he handed the letter back. "Dat's fierce, ain't it! Wot'd yer run off an' leave yer wife an' kid fer? A man wot's got a fam'ly oughtn't stay home an' take care o' 'em, 'stead o' hittin' de road."

"I had to go. I'd been out of work for four months and everything in Chicago dead, and no show of anything starting up. I have a friend who's foreman in a shop in Jackson, and I wrote him for a job and he wrote back that there was a steady one waiting me there if I could take it within ten days. I gave the wife all the money I had, which was barely enough to keep her and the kid until I could send her more, and as I was broke I had to beat it. I got along all right until I reached this town, when that confounded constable discovered me in the empty and pinched me."

"Dis town's fierce fer pinchin' boes," commented Red. "Worse'n Godfrey."

"Well, it seems that I've got to do something," continued Jimmy desperately. "I can't stand it to think of Minnie being in the hospital and the kid in the foundlings' home. What'll Min do when she comes out? She won't have a cent to live on, and will probably be too weak to work."

"Don't she know where yer is?" "Oh, sure. I wrote her as soon as I could, and have had one letter from her. She's a game little girl, and said she'd try and get a job somewhere. But there's mighty few jobs in Chicago just now, and now that she is sick she couldn't work if she had one. It's awful."

"'Tis fierce, ain't it," said Red sympathetically. "But keep yer head up, pal. Mebbe something will turn up. Yer can't never tell."

Just then the door at the end of the corridor, near which they were standing, opened and the turnkey entered with a prisoner. The latter was badly intoxicated, and the turnkey had to support and assist him along. He carelessly left the door unlocked and slipped ajar, and hurried his charge to the end of the corridor, where they turned into another and disappeared.

Both Jimmy and Red noticed the turnkey's carelessness. Jimmy shot a quick glance at his companion and then down the corridor. The other prisoners were walking about or standing in groups, talking, and none had noticed the turnkey's mistake.

Red nodded soberly. "You might make yer get-away," he whispered, "but it'll be risky. If dey ketch yer it'll mean a year."

Jimmy thought fast. It would probably be his only chance and he felt that he must do something for his family at once. In his present desperate state of mind he was ready to try almost anything, and he quickly made up his mind.

"I'm going to make a try for it," he whispered.

The other nodded silently and pressed his companion's hand. "I hope yer make it, an' good luck ter yer," he whispered as Jimmy turned to the door.

He stepped quickly thru and pulled it shut after him. He found himself in a long hall leading to the sheriff's office. The hall was empty, but he could hear voices in the office, and realized that he must be quick. Looking hastily about he discovered an iron door,

close to his right, with the key in the lock.

Jimmy turned the key softly and pulled the door open slightly. It led him into the back yard of the jail, and Jimmy slipped out, gently closing the door behind him.

He dodged around the corner of the jail, ran between two long rows of cord wood, past a barn, and into an alley which he followed until he came to a street. He paused here for a second to note that the street was deserted and then dodged across the road and into a back yard.

He continued this for some distance, keeping to back yards and tumbling over fences until, finally reaching the outskirts of the town, he crossed a railroad track and ran diagonally thru a large field towards some woods. Reaching these he found himself on the bank of a large river, and turning down stream continued his flight, casting frequent glances over his shoulder to see if he were pursued.

He continued this until he had put fully six miles between himself and the town of Collins, and then suddenly found his way blocked by a large swamp.

His first impulse was to go around this, but on second thought he waded straight into it. The water was not deep and he felt that the swamp would be an excellent place of concealment. He was without hat or coat, and realizing that he would be bound to attract attention, and perhaps suspicion in this condition, he decided that it would be best to remain out of sight until the darkness could cover his lack of apparel. Beside this, his long run had exhausted him and he felt the need of rest.

After wading in for some distance, he came to a small island, covered with trees and underbrush, and crawling on to this he threw himself down to wait until night should fall.

It seemed an age to him that he was compelled to remain on the little island but night finally came, and after waiting until it was quite dark, Jimmy crept out of the swamp and continued down the river.

He had proceeded for about a mile when he came to a grove of large trees beside the river. The ground here was cleared of underbrush and leaves, and Jimmy concluded that it was some sort of a picnic ground.

A short distance farther he came suddenly upon a building. It was dark and evidently deserted. After a moment's hesitation Jimmy advanced toward it.

The building was a low, round affair, without windows, and Jimmy followed the wall around until he came to a door, which stood open. He paused here for a minute, peering into the dark interior wonderingly.

"Hardly large enough for a dance hall," he mused. "Still, it must be something of that sort. Guess I'll take a look inside and see what I find. I might run on to an old cot or hat that someone has left behind."

He stepped inside and groped half way around the walls without encountering anything. Then he stumbled on to what seemed to be several empty packing boxes. He was about to pass these, when he was startled to hear the sound of voices and footsteps approaching. They were apparently coming toward the building.

The first impulse was to dash out of the door and run, but the voices were already so near that he realized he could not do this without being seen and probably captured. Turning to the packing boxes he groped among them until he found one lying on its side, and into this he crawled just as a number of men entered the building, conversing and joking in a manner

which at once assured him that they were not a pursuing party.

A moment later a faint gleam penetrating the side of the room where Jimmy was concealed, told him that a light had been struck. He discovered a small knot hole in the side of his box, and placing his eye to this, he saw that the light came from a large oil lamp hung low in the center of the building, directly over what appeared to be a small pit surrounded by a railing. The lamp was fitted with a huge green shade, which concentrated the rays upon the pit, and left the rest of the room in gloom.

The men were scattered about, in groups, conversing and joking. Two of them approached Jimmy's place of concealment and, seating themselves on the box in which he was hidden, commenced talking.

"Well, Judge," one of them was saying, "you've a pretty sang little layout here. Makes quite an addition to your hunting and fishing lodge, don't it?"

"Yes," replied the other; "this ought to be private enough to allow us to indulge in a little sport occasionally without Buck finding it out. The sheriff's so blamed conscientious in the performance of his duties that it isn't safe even to own a bird any more."

At the sound of the last voice, Jimmy started. It was a peculiar deep guttural tone, and he recognized it instantly as belonging to the judge who had sentenced him.

"Buck does keep the lid clamped down pretty tight. He won't even stand for a quiet little game of poker in a back room any more. They say he has it in for you, too."

"Yes. I exerted all my influence to ward preventing his election, and he knows it. He'd jump at a chance to get even with me, and therefore we've got to be mighty careful about this place. I had it built ostensibly for a billiard room, and have a table which can be moved over the pit to conceal it. Outside of my man, John, who fellows are the only ones who know any thing about the purpose of this building, and of course I can trust you not to let Buck get wind of it."

"You certainly can. We are all just as interested in the game as you are, and just as anxious to see the sport. Guess we don't need to worry about Buck getting next to us, however; he isn't so wise. I hear he let a prisoner escape from jail today."

"Yes," answered the judge. "It was that young bum I sent up for six months, the other day. I sized him up for a bad egg right on the start, and when he tried to hand me that old gag about a wife and baby to support, I made me so tired that I soaked him good."

"By the way, where is your man John?" asked the other, who was apparently not interested in the misfortunes of Jimmy.

"That's what I'm wondering," answered the judge. "I sent him out this afternoon to open up the building and move out the table. I haven't seen him since we arrived; but he is probably around somewhere, and will show up soon."

"That accounts for the door being open," mused Jimmy. "It's lucky I didn't run right into John's arms."

At this moment the missing John appeared, somewhat flustered, and with abject apologies for his prolonged absence. He made some explanation to the judge which Jimmy could not hear, was sharply reprimanded by his master, and ordered to fetch the birds.

John hurried out to execute this order, and shortly reappeared bearing a number of wicker covered baskets, which he placed on the floor. The door

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was then closed and the men gathered expectantly around the pit.

Jimmy, who had been taking all this in thru his knot hole, saw two of the men turn to the baskets and select two of the fowls, which Jimmy recognized as game cocks. The men jumped into the pit with the cocks, and the others pressed closer around the railing.

This was the nearest that Jimmy had ever come to witnessing a cock fight, and while he could not see the actual battle, the actions of the men, their excited waging among themselves, and their exclamations of joy or dismay as their respective birds gained or lost ground, interested him in spite of his precarious position.

The fight was soon over, and Jimmy wondered as he heard the victorious rooster crow. He did not know that this was necessary in order to decide the battle.

Two more birds were quickly taken from the baskets and made ready to fight, and during this interval two of the onlookers stepped over to Jimmy's side of the building and picked up one of the packing boxes, carrying it to the side of the pit and sitting down on it. Noting this, two other men carried over the second box.

This was naturally very disconcerting to Jimmy. There were still over half the men standing, and at any moment they might come for boxes, and, as there was but one other besides his remaining, he would inevitably be discovered.

He hadn't given much thought to his position, so far, feeling that he was quite safe in his place of concealment; but now it occurred to him that, even if he were not discovered, when the men left, the building would very probably be locked, and as there were no windows, except those in the roof, he would be virtually a prisoner again.

He peeped out at the men. They were all excitedly watching the second fight, and were crowded closely around the pit. "It'd be a pretty good plan for me to get out of here right now," he told himself.

Crawling noiselessly from the box he tiptoed to the door. To his dismay he found this barred with a heavy piece of oak set in iron cleats on either side of the casing.

When he tried to raise this bar it

stuck in the cleats, so that he had to exert considerable upward force to move it, and when he finally did succeed, it came up so suddenly that he lost his hold and it fell with a loud thud to the floor.

Several of the men turned at the sound. Seeing Jimmy frantically trying to pull the door open, they sprang forward and seized him just as he succeeded in his efforts and was about to plunge into the darkness outside. He was jerked back into the light, where they viewed him with mingled surprise and consternation.

"How did you get in here?" several demanded.

Before Jimmy could reply the judge strode forward, seized him by the shoulder and whirled him around so that the light fell full on his face.

"You're the young fellow that escaped from the jail today," he said after a minute's scrutiny.

Exclamations of surprise came from the other men.

"Are you sure, Judge?" one asked.

"Sure!" snapped the judge savagely.

"Of course I am sure! Didn't I send him up? This puts us in a pretty mess!"

"Looks to me like a good joke on Buck," laughed one of the men. "He lets a prisoner escape, and his arch enemy, Judge Butler, captures the prisoner. Ha, ha!"

"It's not so funny as you think," retorted the judge. "If Buck gets

hold of this fellow again, what's going to happen to our little cock-fighting rendezvous? You don't expect the prisoner to keep his mouth shut, do you?"

The laughing one subsided suddenly. "That's right," he agreed. "We can't let Buck get him. What in thunder will we do?"

"That's what I want to know," answered the judge. "What were you doing in here, anyway?" he demanded, turning to Jimmy. "What did you want to break out of jail for?"

Jimmy took the letter from his pocket and silently handed it to his questioner. A surprised expression came into the judge's face as he read.

"Then you really have a wife and child?" he said.

"Certainly. I tried to tell you so before, but you wouldn't believe it."

The judge folded the letter up

thoughtfully and handed it back.

"Well, what are you going to do?" he inquired.

"That's for you to say," Jimmy answered, shrugging his shoulders.

"You've got me."

"Why don't you let him go?" suggested one of the men.

"That's a bright idea," growled the judge. "Then if Buck caught him we'd have a double charge against us: running a cock fight, and aiding a prisoner to escape. The last is a mighty serious charge, I can assure you."

"Perhaps if we give him a chance to get away he will promise to keep his mouth shut about what he has seen here tonight," suggested one.

"How about that?" said the judge to Jimmy.

But a great light had dawned on Jimmy. He had been thinking fast while the others were trying to decide on what to do, and had arrived at a very definite conclusion: If the judge had him, he likewise had the judge.

"I guess I'll stay," he said quietly.

"Stay!" gasped the judge in dismay. "What for?"

"Oh, there doesn't seem to be much use trying to get away. A man can't run around the country dressed as I am without exciting suspicion, and, as it must be pretty generally known by now that I have escaped, they'd spot me in a minute."

"If it's a coat you want, you can have mine," said one of the men, of about Jimmy's build, peeling off the garment and emptying the pockets.

"Yes, and you can have my hat," said another.

Jimmy accepted the gifts silently and donned them.

"Now get out of here, and don't stop until you are out of the state," said the judge, moving toward the door.

"I believe I said I was going to stay here," said Jimmy nonchalantly.

"But, what for? Don't you want to get away and take care of your family?"

"Doesn't seem to be much use trying. I'm out of a job and broke and couldn't help them if I did get home. I guess I might as well go back to jail and serve out my time. I'll have the satisfaction of seeing some of our fellows in there with me, or of knowing that you all paid big fat fines."

"Now, see here," said the judge in a coaxing tone, "you don't want to get us into trouble, do you? These fellows here are all prominent business men in Collins, and their arrest on the charge of participating in a cocking main would be a complete disgrace to them. And besides, it would put me out of business and ruin me, were it known that I was at the head of it. Now be a good fellow and get out of the state."

"If you get into trouble it'll be your own fault," answered Jimmy coolly.

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"If you hadn't been so Johnny Wise that you sent me up for six months without giving me a chance to explain my circumstances, I'd be working now and in a position to help my wife, instead of being a fugitive. I'll be mighty glad to see you get soaked to the limit."

"Oh, throw him out and take a chance," growled one of the men. "He's only bluffing and has no intention of giving himself up. He's just trying to work us out of a bunch of coin."

"If you put me out I'll hike right straight back to the jail and tell the sheriff all I know," declared Jimmy.

The men stared at each other in consternation. The situation was obviously beyond them.

"Heavens, let's make up a purse and present it to him," said one of them. "He's got us dead to rights and don't propose to let up until we dig."

"How much do you want to get out of the state?" demanded the judge, turning to Jimmy.

Before he could reply there came a sound from outside that froze them all. It was the long drawn bay of hounds.

The judge turned white as a sheet and listened breathlessly until the sound was repeated, this time closer to the building.

"Great Scott!" he gasped. "Buck has got the bloodhounds on the trail! Fasten that door, quick!"

Two men sprang back and placed the bar in position. They were not a second too soon, for at that instant the dogs arrived outside and commenced to howl and scratch at the door. A second later the voice of the sheriff was heard.

"Open up, Graham, and surrender," he called. "We know you are in there, and you can't get away."

The judge seized Jimmy's arm and pulled him to the opposite side of the building.

"See here," he whispered, "you're caught and can't escape. But Buck must not know that the rest of us are here. You'll have to go back to jail, but if you'll slip quietly out and give yourself up, and keep your mouth shut, I'll give you two hundred dollars to ward taking care of your family, and will do what I can to give you your freedom at once. Make up your mind quick!"

"I'll agree to that," Jimmy whispered promptly.

The judge thrust a roll of bills into his hand. "There's two hundred or more there," he whispered. "Now get out quick before Buck smashes the door down, and be sure to close it after you," and with that the judge sprang to the side of the pit and blew out the lamp.

The sheriff and his men had been keeping up a clamor outside and were now pounding heavily on the door. Jimmy quickly stepped to it and called out:

"All right, sheriff, I give in. Stand back; I'm coming out."

He removed the bar, and opening the door just wide enough to permit him to pass thru, he slipped out, closing it quickly after him.

He was immediately surrounded by the sheriff, three deputies and two huge bloodhounds. The men carried lanterns.

"I thought we would get you," said the sheriff exultantly. "We had to telegraph to Jackson for the hounds or we'd caught you before this."

"Where'd you get that coat and hat?" demanded one of the deputies suddenly. "You didn't have them when you left the jail."

"Why, I—!" began Jimmy confusedly.

"Who is in that building?" asked the sheriff suspiciously.

"Not a soul," lied Jimmy faithfully. "I don't believe it. I thought I heard someone whispering before you came out. Guess I'll take a look."

To Jimmy's dismay the sheriff stepped to the door, but he had barely crossed the threshold when his lantern was kicked from his hand and someone struck him violently in the face, knocking him down.

Instantly all three of his companions and the dogs sprang to his aid; but the men inside were determined not to be recognized, and aimed kicks at the lanterns in the hands of the deputies, quickly extinguishing them, and in a second the place was in darkness and a turmoil of shouting and fighting men and barking dogs.

Jimmy was for the moment left alone, and seeing his opportunity he turned and ran as fast as he could across the fields.

From the direction of the town he could hear the heavy puffing of a loco motive, and about a moment later the headlight swung into view around the curve about half a mile away.

He knew that the railroad must be somewhere close by, and he could tell by the labored puffing of the engine that the train was on an upgrade. Hopefully he ran toward it.

He reached the tracks just as the engine passed him, and, as he had surmised, the long heavy freight train was having all it could do to top the grade, and he saw that it was moving slowly enough for him to catch it.

He let fully half the train pass him before a box car with the side door open came along, and then by running as fast as he could he managed to catch hold of the side of the door and swung himself inside.

A few minutes later the train was over the grade and rolling down the other side, carrying him away from his persecutors and toward his destitute family at the rate of thirty miles an hour.

"Mighty lucky I hit that grade," he soliloquized as he closed the door and sat down in a corner of the car. "They'll never dream that I caught this train, and will hunt all over the county for me. I'll make Hammond by daylight, and I'll walk home from there. Once in good old Chi, I guess I'll be safe from capture by any county sheriff."

Down in a southeast Kansas town lives a rather simple-minded youth by the name of Bill Beasley, whose facility in contracting small debts at the local stores is only equalled by his success in evading their payment. One day recently, however, Bill made the mistake of showing some money before one of his creditors and after the hard-fought argument which followed, the money was handed over to the store keeper.

"Now," said Bill, sadly, "we're square and I want a receipt. Make it legal so you won't be after me again."

And here is the receipt which Bill proudly exhibited to his friends:

To Whom It May Concern: Greeting: All men know by these presents, habeas corpus and nux vomica, that Bill Beasley don't owe this firm nothing and ain't going to."

Miss Elderly.—Do you really think

women propose?

Oldbuck.—If they don't there are

many marriages I can not account for.

First Sailor: "On my last voyage I

saw waves 100 feet high!"

Second Sailor: "I've been a sailor 40 years

and never seen 'em over 40."

First Sailor: "P'raps not! But everything

is higher now than it used to be,

mate!"—Life.

Household

COUNTRY NURSING—CARE OF BABIES

By Evelyn Harris

I wonder why it is that so many folks think if a woman is 50 years old (or older) and has no "visible means of support," that she is competent to be a nurse. The very best nurse is a young person, because she is apt to be cheerful and strong. Country girls who are anxious to make a little money ought to give the subject consideration. In the first place, with the help of the family doctor or a corresponding nurse, she can do all of her studying at home, and still be of great benefit to her parents. Then, too, when she is ready for work, it is likely that it will be with her own friends and under the special protection of her own doctor. That will give her confidence in herself and help to make her a good nurse.

The country woman needs a nurse



POACHING EGGS IN TOMATOES.

with some idea of hygiene and domesticity. The days of "old colored nurses" and untrained midwives is past, so far as the city woman is concerned, but her country cousin is forced to depend on just such people in her greatest troubles. If you could just introduce the subject in an attractive manner and prove to them that the nurse gets good pay, board and laundry in nearly every home she visits, besides making life-long friends, I expect our girls would think twice before running off for the uncertain delights (?) of the store or office. Just a few months of study and she is ready for work.

The best nurse will always be very careful of her own personal appearance. A plain shirt waist suit of white or colored wash material, with white bib apron, cuffs and a tiny cap, make a complete, easily laundered and becoming suit. It is a good plan to have a big cover-all apron of gingham and overalls, too, to slip on when in the kitchen, so that will save the appearance of the other apron for the sick room. Wear your hair the most becoming way; that is, easily and neatly put up; and do not forget to get a good, warm bathrobe and "comfort slippers" to put on for night work.

If it so happens that your first work is an obstetric case, be sure your satchel is packed for a hurried call. Your hooks will suggest the things needed, and as a good many persons do not have the necessary articles on hand, it is best for the nurse to be prepared. When you reach the home, get into your dress and the sick room as quickly as you can—the patient will be so glad to see you. I have been very fortunate in getting a person who was neat, clean, dependable, honest, strong and cheerful. Now, I will admit that a person combining all of these virtues is right hard to find, but every community has two or three such people who would make ideal nurses for anyone. We must have a person who knows her business, if we are to come thru this ordeal with good nerves. We must be able to leave every thing in her hands, and if they are capable hands, we are blessed.

Just a few words for the inexperienced woman who finds herself with a poor nurse: In the first place, see to it that the baby's eyes are wiped with absorbent cotton the very first thing. Use a piece dipped in cooled boiled water, into which a little boric acid has been put; and be sure a piece is used for each eye. After this has been done, baby can be wrapped up and laid aside until your wants are attended to.

Be sure that plenty of warm water and an antiseptic are used each time you need attention, and have plenty of fresh air constantly in your room. I have found it better to keep baby in another room while I am confined to bed, for then he can have quiet and darkness, while I have light and company. The baby must learn in the first month just what is expected of him, and if someone runs to pick him up every time he whimpers, he will soon think that he is expected to cry each time he wakes up. So, insist that he be brought to you every two hours during the day for his meals. Then he will sleep during the night without further trouble. I have found this to be the case, and as it has worked out so well with three babies I thought I'd pass it along. So I feed him, awake or asleep, every two hours until 8 P. M. Then he will sleep until 4 A. M. with no further attention.

Do not let the nurse rock him, and above all, do not let her walk him. If, after feeding him, you will either turn him over on his stomach or put him up on your shoulder, the gas will come up, also the surplus milk, and likely he will not have the colic. I have always done this, and find that it works splendidly, as none of my children have ever had the colic. The last one used to cry very badly, especially between 5 and 8 P. M. For a week I thought it was the colic. So I gave him a bottle with a little boiled water in it, warmed and sweetened, and he seemed to be better. But he noted so hungry about it that I decided to give him a little milk with it (one tablespoonful to three of boiling water), and then I discovered that he had a larger appetite than my other babies, and had not been getting enough to eat. So now he has a bottle in the morning and one in the afternoon, and all symptoms of

Pennsylvania Farmer

August 16, 1913

the troublesome colic have disappeared. I nurse him just before I get up in the morning, and make him comfortable, then go down and prepare my breakfast, dress the other children and clean up, usually, before he wakes up again. Then I feed him again, get my room work done and then give him his bath and his bottle, and he is good until 1.30 or 2 P. M. This is just as regular as clock work, and it surely pays to be this way. But it must be started when the baby is born, or we can not do it.

POACHING EGGS IN TOMATOES

Cut the pieces from the stem end of each tomato; remove pulp; set in rame kin dishes; sprinkle with salt and pepper, drop eggs into tomato cups; cover with buttered paper. Set in pan of water and bake in a moderate oven until firm.—Housekeeper.

Taking White of Egg.—When white of egg is objectionable to sick people it is necessary for them to have it. It may be disguised so that they will not know they are taking it. If the white of egg is carefully strained thru a piece of gauze or cheese cloth, or even thru a coffee strainer, and shaken in some crushed ice, then added to the milk or fruit juice, it will be almost impossible for the patient to detect its presence. This method is much better than beating it.—E. M. P.

PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct fitting of your orders unless you do so. Also give waist measure for skirt and age for children's patterns. Address Pennsylvania Farmer, 214-18 So. 12th St., Philadelphia, Pa.

6116—Ladies' Three-Gored Skirt.—Cut in sizes 22 to 30 inches, waist measure. Medium size requires 4 yards of 36-inch material. Price of pattern, 10 cents.

5745—Misses' and Small Women's Dress.—Cut in sizes 11, 16 and 18 years. Medium size requires 4 yards of 36-inch material. Price, 10 cents.

5916—Ladies' Shirt Waist.—Cut in sizes 32 to 42 inches, bust measure. Medium size requires 2 yards of 41 inch material and 1 yard of 24-inch silk. Price, 10 cents.

5911—Children's Rompers.—Cut in one-year size only, and requires 2 yards of 27-inch material. Price, 10 cents.

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of 36-inch material, with 1 yard of 19 inch all-over. Price, 10 cents.

6099—Girls' Dress.—Four sizes, 6 to 12 years. Age 8 requires 3½ yards of 36-inch material. Price, 10 cents.

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Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Aug. 11, 1913. Butter market quiet. Receipts of solid-packed creamery of desirable quality were light and values were firmly held. Fancy butters were well cleaned up and ruled firm. Fine fresh eggs quickly taken at firm prices. Heat-damaged stock sold at irregular prices. There was little business in the dressed poultry market and prices were unchanged. In live poultry the market was quiet but steady under moderate offerings. Trade in green fruits was quiet, with offerings of desirable stock only moderate. The vegetable trade was quiet.

Butter.—Western creamery, 30c; extras, 27½c; firsts to seconds, 24½c to 26½c; special prints, 34½c; near-by prints, 31c. Cheese.—New York full cream, 15c; do. to good, 14½c to 14¾c. Eggs.—Candled, 29½c to 32c; extras, 28c. Current receipts at \$6.00 per case.

Poultry.—Fowls, 17½c to 17¾c; old roosters, 12½c to 13c; pigeons, old, 23½c; young, 12c to 12½c. Dressed Poultry.—Western fowls, 18½c; roosters, 14c; chickens, 21½c to 22c; squabs, 22c to 24c.

Vegetables.—White potatoes, new, 40c to 45c; do. old, 35c to 40c. Onions, 65c to 75c basket. Lettuce, 15c to 20c basket. Cabbage, 10c to 15c basket. Beans, 15c to 20c basket. Peas, 15c to 20c basket. Corn, 15c to 20c basket. Squash, 15c to 20c basket. Lima beans, 15c to 20c basket.

Fruit.—Apples, southern, new, 75c to \$1.25 basket. Huckleberries, 10c to 12c qt. Cherries, 5c to 12c lb. Gooseberries, 30c to 40c 8-lb. basket. Currants, 20c to 35c 8-lb. basket. Raspberries, 20c to 35c 8-lb. basket. Pineapples, per crate, \$1.00 to \$2.50. Grapes, 20c to 35c basket. Cantaloupes, Jersey, 15c to 25c basket. Peaches, 15c to 25c basket. Plums, 15c to 25c basket. Nectarines, 15c to 25c basket. Apricots, 15c to 25c basket. Pears, 15c to 25c basket. Quinces, 15c to 25c basket. Elderberries, 15c to 25c basket. Currants, 15c to 25c basket. Raisins, 15c to 25c basket. Prunes, 15c to 25c basket. Dates, 15c to 25c basket. Figs, 15c to 25c basket. Walnuts, 15c to 25c basket. Pecans, 15c to 25c basket. Almonds, 15c to 25c basket. Cashews, 15c to 25c basket. Pistachios, 15c to 25c basket. Macadamia nuts, 15c to 25c basket. Brazil nuts, 15c to 25c basket. Pine nuts, 15c to 25c basket. Sunflower seeds, 15c to 25c basket. Sesame seeds, 15c to 25c basket. Flax seeds, 15c to 25c basket. Hemp seeds, 15c to 25c basket. Cottonseed meal, 15c to 25c basket. Linseed meal, 15c to 25c basket. Soybean meal, 15c to 25c basket. Corn meal, 15c to 25c basket. Wheat meal, 15c to 25c basket. Oat meal, 15c to 25c basket. Barley meal, 15c to 25c basket. Rye meal, 15c to 25c basket. Buckwheat meal, 15c to 25c basket. Sorghum meal, 15c to 25c basket. Millet meal, 15c to 25c basket. Amaranth meal, 15c to 25c basket. Quinoa meal, 15c to 25c basket. Buckwheat flour, 15c to 25c basket. Corn flour, 15c to 25c basket. Wheat flour, 15c to 25c basket. Oat flour, 15c to 25c basket. Barley flour, 15c to 25c basket. Rye flour, 15c to 25c basket. Buckwheat flour, 15c to 25c basket. Sorghum flour, 15c to 25c basket. Millet flour, 15c to 25c basket. Amaranth flour, 15c to 25c basket. Quinoa flour, 15c to 25c basket. Buckwheat bran, 15c to 25c basket. Corn bran, 15c to 25c basket. Wheat bran, 15c to 25c basket. Oat bran, 15c to 25c basket. 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Veterinary

(Conducted by W. C. Fair, V. S.)
(Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer. Letters only will be published. When reply by mail is requested, it becomes private practice, and a fee of \$1 must accompany the letter. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, would make one of the most valuable medical symposiums a farmer-stockman could obtain.)

Non-inflammatory Tumors.—I have a young cow that appears to be perfectly healthy in every particular except that on left fore leg she has a whole lot of bunches, ranging in size from a pea to a hen's egg. Will you kindly tell me what they are and how to remove them? C. V. P., Grand Valley, Pa.—These tumors are abnormal masses of tissue, non-inflammatory, and have no special connection with the rest of body, more than they are nourished from the blood. Tumors are usually independent, and their nourishment bears little or no relation to the nutrition of the body. Apply 1 part iodine and 6 parts fresh lard to bunches, 3 times a week; or open skin and cut them out; then apply 1 part iodoform and 5 parts boracic acid to wound daily.

Lumbago.—I have a sow that was all right until she weaned her pigs; since then she wobbles behind and sometimes drags her hind parts. Is there anything I can give her that will correct this weakness of hind parts? B. S. W., Girard, Pa.—Feed less corn, and if you feed her grain give her a few oats, oil meal and grass. Also give her one-sixtieth of a grain of strychnine and a teaspoonful of cooking soda at a dose in feed, 3 times a day. Apply 1 part turpentine, 1 part aqua ammonia and 4 parts olive oil to back and hind quarters every day or two.

Eczema.—I have a mare that scratches herself continually. She is covered with small pimples that do not suppurate. Our local Vets. say that the mare has eczema, but their remedies fail to effect a cure. G. K. W., Oil City, Pa.—Give your mare a dessert-spoonful of Donovan's solution at a dose in feed, 3 times a day. Grain and grass is the best food for her. Also dissolve 4 lb. borate of soda and 2 oz. of carbolic acid in a gallon of water and wet itchy parts of body once or twice a day.

Bruised Udder.—I have a cow that gives bloody milk. For the past two weeks her udder has been swollen, mostly on right side. Have applied hot water to udder, but this does not take the swelling down. K. S. A., Cory, Pa.—Your cow must bruise udder when stepping out of ditches or when traveling in lot where there are logs and low fences. Dissolve 4 oz. of powdered alum, 4 pt. tincture arnica in a gallon of water and apply to udder, 3 or 4 times a day. Ascertain the cause of trouble, if possible and remove it.

Warts on Teats.—My 5-year-old cow has been troubled with warts on her teats for the past three weeks. I have been applying castor oil, but this fails to reduce them. W. A. G., Cambridge Springs, Pa.—Cut off those that have necks with scissors or knife, or burn them off with lunar caustic. Then oil the sores with olive oil after milking. Seabhy teats should be oiled with 1 part carbolic acid and 25 parts vaseline, twice a day.

Chronic Heaves.—I recently purchased a mare supposed to be perfectly healthy. After having her in my possession for about a month I discovered she had heaves. She is 10 years old, and refuses to eat. Would it be harmful to her if she was worked? G. K. W., Bethlehem, Pa.—Feed no clover, or musty, dusty, badly-cured fodder of any kind and not too much bulky food. She should be well nourished on food that is not bulky; also give her 2 dr. Fowler's solution, 1 dr. fluid extract nux monia and 4 oz. fluid extract gentian at a dose in damp feed, 3 times a day. She will perhaps be able to do light work if she is eating plenty of nutritious food.

Hairy Vetch Seed.—Circular No. 45, of the U. S. Department of Agriculture, gives a report on test of hairy vetch seed for adulteration and misbranding. In giving directions for detecting such adulteration, the Department says: The difference in color of the interior of the seed shown by different kinds of vetches affords a ready means for detecting the use of other vetch seed as

an adulterant of hairy vetch. Crushed hairy vetch seed is of a lemon-yellow color, somewhat lighter on the flat than on the rounded surface. The crushed seed of most of the other vetches occurring with the seed of the hairy vetch varies in color from a dark fawn to reddish orange. Crush a small handful of seed, and if there are any fawn, salmon, or reddish-orange colored pieces the seed is not pure hairy vetch.

LEGAL QUERIES

Right of Way.—I am the owner of a house in a village in Chester Co., Pa. To gain access to the rear of this house, my deed calls for an 11-foot alley to the west of an adjoining property. The owner of this property has nailed fast the gate between my house and this alley, thereby preventing anyone from gaining entrance with a team. Have I the right to open this gate and remove obstructions? How shall I proceed in the matter? H. K. F., N. Y.—The fact that your deed calls for the use of the alley does not necessarily establish the right to it; the right of way must originally have been granted by the owner of the land over which it passes. If at the time you acquired the property the alley was used to gain access to your premises, the owner has no right to obstruct it, and you, after giving him notice, may safely open the gate and remove the obstructions. If he persists in placing obstructions, he will be liable in damages, or you can obtain an injunction to restrain such action on his part. Twenty-one years' obstruction will extinguish the right of way.—G. G. & H.

Establishing Road.—I have a piece of land entirely surrounded by land owned by other parties. How can I get a road thru their land? About what would it cost, outside of the value of the land used? H. D. A., Titusville, Pa.—You have a right of way by necessity to the nearest highway over the adjoining land of the party who originally conveyed the land to you or to your predecessors in title. Such right exists even tho this original grantor has parted with the title to his land. The owner of such adjoining land has the right to select the route of the road, but if he does not, and you can not agree with him thereon, you can select the route, having due regard to his interest and convenience. No legal proceedings are necessary, and you need not pay for the land used.—G. G. & H.

VEGETABLE GROWERS' REPORT

The New York Vegetable Growers' Association has just gotten out its first report. It is made up in a 230-page book, remarkably well printed on a good quality of paper, and filled with matter which should be of very great interest and value to every vegetable grower and trucker. It contains a complete report of all the addresses and discussions of the meetings of the association in the years 1912 and 1913. These addresses were given by the best-known authorities on vegetable work in the country; and the matter is indexed for ready reference.

Among the valuable features are articles and discussions, as follows: Asparagus and Good Seed, by Dean R. L. Watts, of the Pennsylvania State College; Celery and Early Cabbage, by R. H. Garrahan, Kingston, Pa.; Outlook in Vegetable Gardening, by Dr. L. H. Bailey, of Cornell University; Onions on Muck Soil, by E. O. Eppin, Ithaca, N. Y.; Marketing Muck Land Crops, and Possibilities in Crops Not Commonly Grown on Muck Land, by Henry Griffith, South Lima, N. Y.; Cabbage and Irrigation, by O. E. Wilkinson, Ithaca, N. Y.; Tomatoes for Market and Canning, by S. J. Cook, Dunkirk, N. Y.; Irrigation, Local Growers' Organizations, by Paul Work, Ithaca, N. Y.; Greenhouse Construction, by A. C. Beal, Ithaca, N. Y.; Local Selling of Market Garden Products, Growing Early Plants, by E. H. Hallett, St. Johnsbury Center, Vt.; Potato Culture, by J. F. Stone, Ithaca, N. Y.; and Vegetable Diseases in round-table discussion led by Donald Reddick, Ithaca, N. Y.

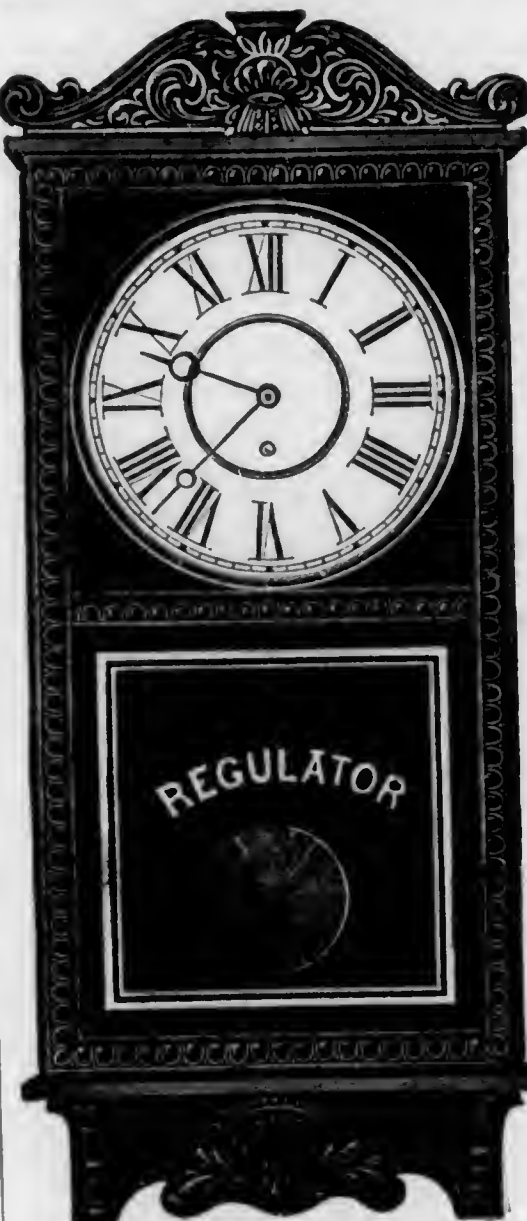
The report also contains a history of the organization and full report of business meetings. The publication should be of value to truckers and market gardeners in their practical work, and a valuable guide in organization work. For information concerning distribution, address Secretary, Paul Work, Ithaca, N. Y.

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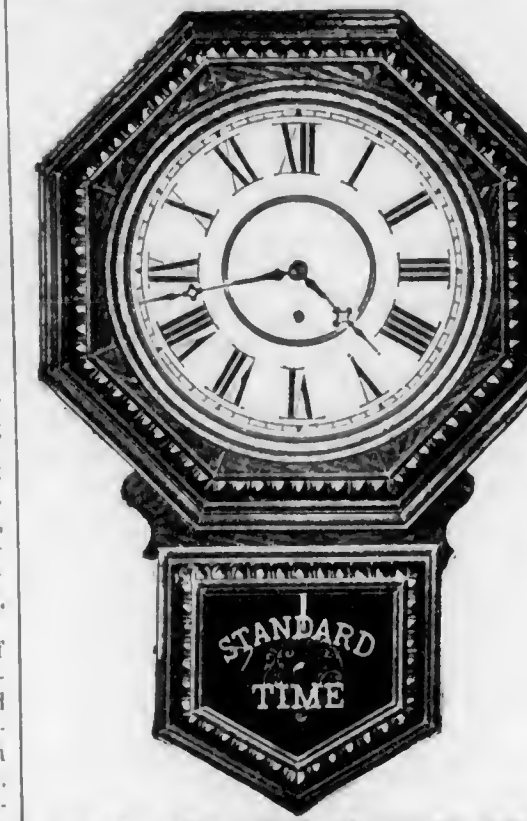


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AGRICULTURE
THE KEYSTONE OF
NATIONAL PROSPERITY

ESTABLISHED 1880 PUBLISHED WEEKLY

PRACTICAL POINTS IN CORN IMPROVEMENT

Some Summer Reflections

In the past the corn grower has been worshipping too much at the shrine of "variety." Instead of having been critical and studious of the conditions and methods underlying the great crop he admires, he has been mechanically asking, "What kind of corn is this?" Having put entirely too much confidence in variety, he has been sending afar for new kinds of corn, or possibly buying champion seed at a corn show. This undue confidence in variety has caused many a man to overlook reasonable and possible features of soil improvement by which any given variety may be caused to increase greatly in yield.

I think that some of the assumed values of the corn show have been overrated; but it is evident that the corn show and its consequent agitation have gone far towards exploding the "variety" bubble. To be sure, we must find the improved types of corn, but the blind trust in the phenomenal value of much-lauded variety is rapidly giving way to the application of more improved cultural methods.

Selection of seed has been much dwelt upon, and it should be so. But the fundamental elements, and not the mere mechanical methods should be our aim. Seed corn should be picked when thoroughly and naturally mature, before it has been damaged in any way, and should be stored under natural conditions until the next planting season. This is a simple rule, but it has always worked with perfect satisfaction in our case. It does not matter a whit to us just when and how the seed ears are picked, so long as in accord with this simple principle. It makes no difference at all whether the seed ears are thrust on nails, hung on strings, or put into "pigeon holes," just so the natural conditions of air and shelter are complied with.

The seed corn tester is a wonderful help, but the man who has carefully picked and stored his seed seldom continues the use of the tester long. By care beforehand, and by the trained eye in the spring he has learned to select the seed that will grow. By careful attention to seed condition we have had no cause whatever for disappointment with stands of corn the last several years, altho we have entirely discontinued the use of an elaborate seed tester.

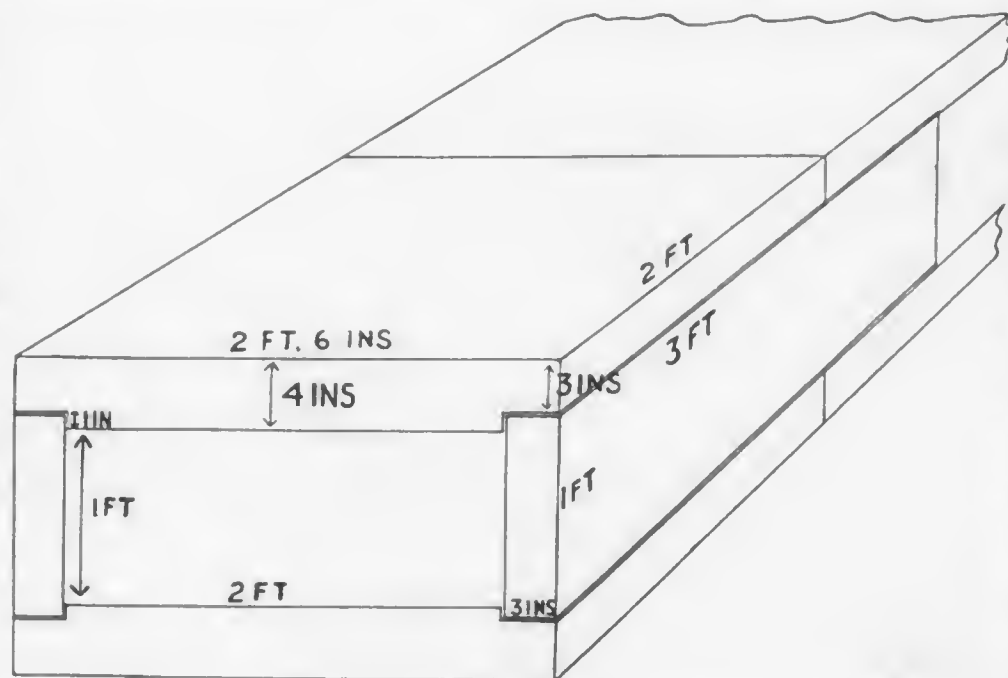
The elements that destroy the stand after it has started to grow have been greater handicaps to us than have had seed, a dozen times more. How to prepare the soil so as to kill out worms, grubs, ants, mice, etc., is worth the careful attention of every farmer. Early plowing, systematic tillage before planting, killing of green growth on which pests can live and disturbing their habitations kills them and drives them from the field. Harrowing the ground just before the corn comes thru breaks the crust and lets the plants thru thrifflily.

Careful and systematic cultivation keeps the soil in fine condition to support the plant. This season it has been our cause for unusual observation that corn is so uniformly thrifty, apparently dependent upon unusually efficient "tending." In the rush of harvest the farmer has often allowed his corn to become too large for cultivation, and as a consequence it never received the highly beneficial "laying by" cultivation. Farmers are learning that it pays to suspend haying long enough to go thru the corn the last time, before it gets too high; improved hay tools give more time for such work.

The manure spreader has been a po-

tent factor in producing greater yields of corn; a light application over the whole field is much superior to a heavy application of manure on small spots. No use of manure has produced more noticeable results in our case than top dressing the plowed ground (especially clay) just before planting. Harrow the ground after the plow, then when done plowing use all possible time in getting the manure on the ground, later disking it in. The ground must be dry enough to prevent packing by the spreader and horses. The idea that the spreader will draw too heavy is generally erroneous; this has often been due to lack of oil. Every bearing should be oiled, including the numerous ones in the apron. Even rather strawy manure has not interfered in the least with cultivation in our case, and the manure has put the surface in fine loose condition, and the corn shows up larger and more thrifty on soil so treated.

Our experience in the use of fertilizers on corn has not generally proved flattering. The most marked improvement in any of this work for us has been the improvement of the crop due to top-dressing with nitrate of soda on the more compact and heavy clays. We put it on by hand broadcasting before the corn comes up.



END OF CONCRETE SLUICE, SHOWING HOW JOINTS ARE BROKEN
(Side slabs should be 1 ft. 2 in. wide instead of 1 ft. as shown.)

What we desire on clay soil is a larger plant, and the nitrate promotes the early growth.

The problem of larger yields of corn is between the four fences of the farmer's own corn field, and not solved by the quest of seed catalogs. His own observation should furnish the hints for subsequent application.—George P. Williams, Delaware Co., O.

CONCRETE SLUICES IN ROAD WORK

I was born nine miles from a locomotive whistle. I went to a common school until I was sixteen, then taught for 10 years, married, bought a farm and then taught and managed the farm for six years more. Three years ago I gave up teaching to devote my whole time to the farm. During all these years we have hauled produce and supplies nine miles to the station.

Last year we tired of this endless grind and sold our farm here and bought one on the river bottom land, about a mile from the depot and on a main division of the railroad. We spent every spare moment last winter moving, and as it was a very open winter the roads were not very good. So much use of the roads is not without its effect. We have had an opportunity to study roads at all times of the year and in all kinds of seasons. A part of our road lies along the creek, part along the river and part

over the hills, so the problem is presented in all its variations. So far, I have seen but two things that impair the roads, water and frost.

One county surveyor says: "Any fool can make a road, but it takes a smart man to keep the water out of it." As frost and water work together, we will consider only the water. Years of observation lead us to think that two natural laws are not very well understood by those who build and maintain our dirt roads: Water will not run up hill, and a six-inch sluice will not carry an eighteen-inch stream of water.

In my travels over the roads I can find at least a hundred places where the center of the road is lower than the side ditches. I recall one place that, ever since I was a child, has been a veritable stone patch thru washing from an overflow ditch. Two men and a team, with plow, pick and hoes, would have fixed it in a half day so that it would have been a good road for five years without additional repairs. It seems so strange to spread a little work over so many miles when a better plan would be to put in good repair a shorter piece each year.

The first of this year we had a very severe rainstorm. I noticed that practically half of the sluiceways were

Second, if the frost displaces a slab the whole can be replaced as soon as the ground settles. This is not true of a monolithic sluice. Third, it can be easily cleaned out. Fourth, the forms can be used again and again with no perceptible wear or waste. Fifth, it can be made very cheaply and by unskilled labor. I do not expect this to eclipse the King Road Drag, nor to even rival it in popularity, but let a few of these crossways be made in each township and soon no other will be used, as they can be made for about one-fourth the cost of the metal crossways.

Let us build a sluice with a throat two feet by one foot and 16 feet long. For the forms for the top and bottom slabs, take two 2x4-inch scantling, 16 feet long and preferably dressed. Lay them on edge on the smooth barn floor. 2 feet and 6 inches apart. They should be fastened to the floor by blocks on the outside, so that they can not move. They should be exactly the same distance apart at each end. The ends may now be closed with a board nailed to both scantlings. We now have a box 2 feet and 6 inches wide, 4 inches deep and 16 feet long, perfectly smooth on the inside.

On the floor next to the outer corner on the inside of the box lay a planed inch board 16 feet long and three inches wide. This to make the retaining shoulders for our side slabs. Next divide the box into smaller boxes, two feet long, by thin boards placed squarely across our long box and at regular intervals of two feet. This may now be stamped full of concrete, the top nicely smoothed off and allowed to dry. If two forms are used the top and bottom may be made at the same time, as both are exactly alike.

The sides of the sluice may be cast in the same way, except that the forms must be three inches deep and need no inch piece in the lower edges, and should be 1 foot and 2 inches apart. Care should be used to make the divisions so that the joints in the side slabs will come half way between those in top and bottom slabs; "break joints," as the stone masons say. After the concrete has thoroughly dried the slabs may be placed in position, and if well placed on an even bottom and covered with 6 or 8 inches of dirt, will last a lifetime. Of course, these dimensions may be varied to suit different places, and if a wide sluice is made the top slab should be reinforced with iron rods.—L. C. Burroughs, Bradford Co., Pa.

A SUCCESSFUL COUNTY FARM BUREAU

Mercer County, N. J.

In no one county in New Jersey are the farmers making more progress than in the county of Mercer. Much of their progressiveness is directly due to the County Farm Bureau, which was organized less than a year ago. Just now John H. Hankinson, the expert in charge is suggesting winter cover crops and alfalfa as soil improvers, and in this connection has planned for two demonstrations. These will be the third and fourth of their soil improvement series, the first and second having dealt with top-dressing and lime respectively.

Winter Cover Crops.—Concerning winter cover crops, the following directions are given: Two acres devoted to the study. One acre is seeded in corn field at last cultivation in July, either by hand or with a seeder, or after potatoes early in September, with one bushel of rye and 15 pounds of winter vetch, or one bushel of wheat and 10 pounds of crimson clover. One pound of cow-horn turnips may be added to either of

above mixtures. The proportions of these mixtures may be varied with advantage to meet individual conditions. For example, some on very poor land may desire to increase the proportions of grain, while others on good ground or after potatoes succeed with clover and vetch without grain.

It is important to have the seed well covered that it may stand late summer drought and winter freezing. It is also better to inoculate the clover and vetch. Use the rye mixture in fields where it is hard to get a stand, or where the maximum amount of green manure is wanted. Use the wheat mixture where there is trouble in turning under in the spring. The purpose of the grain is to insure a stand thru the winter. The purpose of the legume is to add nitrogen to the soil at the same time as the humus. The legumes are also quicker.

Alfalfa.—The other acre is devoted to a demonstration to show the advisability of growing alfalfa. This acre must be well drained and limed at the rate of one ton burned lime, one and one-fifth tons ground burned lime, one and one-fifth tons hydrated lime, or two tons ground limestone. If the ground has not been limed for some years and is acid, use double the above quantities. Where large amounts, equivalent to over one ton of burned lime, are used, the unburned ground limestone is safer as it is not so caustic. Inoculate with either 300 pounds of soil from a well-established alfalfa field or a good bacterial culture, or with both. Fertilize with 300 pounds of a 4-8-10 potato fertilizer. Seed before August 15th, preferably after potatoes or summer fallow, at the rate of 25 pounds to the acre. One good method is to seed both ways with a wheelbarrow seed sower. Cover with a light harrow or a weeder. It is absolutely necessary that a fine, firm seed bed be prepared and that the ground be as rich in humus as possible.

Inoculation.—Inoculating cultures from the government at Washington, D. C., may be obtained by communicating with the farm agent, who will also have the addresses of shippers who will supply lime direct in carloads, and of seed dealers having first quality crimson clover, winter vetch, or alfalfa seeds. Farmers should be very careful in ordering seeds to obtain them free from weeds and of good germination.

Army Worms.—Another instance in which the farm bureau has been of great service to the farmers of the county is in combating army worms. Mercer County has an epidemic of these worms. The pests have done a great deal of damage to grass, grain and corn. After a thorough study of the situation, the farm bureau agent made the following recommendations:

Fields may be sprinkled by means of broad cast sprayers with an arsenical solution. The main effort should be directed toward preventing the larvae from reaching other fields. One of the best remedies available is the old time one of plowing a furrow with its perpendicular side toward the field to be protected and the subsequent dragging of a log thru the furrow to keep the earth friable and kill the worms which have accumulated in the ditch. Another is to poison heavily with paris green or london purple in solution a strip of pasture or field crop in advance of the traveling army of worms.

In the same line is the distribution of quantities of bran, arsenic and sulfur mixture across their line of march. The general destruction of the worms themselves by direct application is hardly practicable, and as a rule they can be safely left to the action of their natural parasites, which are apt to be very much in evidence at the same time as the worms.

Corn Contests.—Trenton has donated all the money, amounting to \$300, for

prizes in the Mercer County Boys' Corn Acre Contest, which will be decided at the State Board of Agriculture meeting, December 8 to 13. The contest is being conducted under the supervision of the Mercer County public school authorities, with the co-operation of the Mercer County Farm Bureau and the county granges. The regulations are as prescribed by the United States Department of Agriculture in their corn club work. Fifteen prizes, aggregating \$300 and ranging from \$5 to \$50, will be awarded.

From the great success attending the efforts of the Mercer County Farm Bureau, it would not be surprising to see several other counties in New Jersey take advantage of the new law and do likewise.—D. T. Hendrickson, Monmouth Co., N. J.

ALFALFA CAMPAIGN BY AUTO-MOBILE

What undoubtedly will prove one of the greatest, as it is certainly the most unique, agricultural campaigns ever started in this country was inaugurated on April 29th, when the alfalfa automobile train of Prof. Perry G. Holden, Director of the Agricultural Extension Department of the International Harvester Company, started its



PROF. HOLDEN POINTING SOME LESSONS FROM ALFALFA ROOTS.

tour of Kent County, Michigan. Professor Holden, who is a leading authority on corn and alfalfa, was the originator several years ago of the now famous agricultural demonstration trains. Now he is carrying the gospel of better crops further by using the most modern vehicle—the automobile—and going directly to the people on their own farms where the meetings are to be held.

A resume of the week spent in touring Kent County shows approximately 500 miles covered; from 6 to 8 stops made at designated meeting places each day; crowds of from 100 to 2,000 addressed by three or more speakers at each place; 6,000 pieces of literature and several hundred sample packages of seed distributed. About 400 farmers pledged themselves to sow a total of 4,000 acres of alfalfa this year, as against 75 acres in the entire county last year.—Robert H. Moulton.

SELECT SEED POTATOES IN THE FALL

One of the most practical plans for increasing potato yields is to select your seed potatoes in the fall, before the tops have died. The importance of seed selection is generally recognized

in connection with growing corn and such crops. Now the potato, which is not a seed but a tuber, and thereby a direct offspring of the parent plant, and not being subject to pollination, is more affected by seed selection than these other plants. There have been many trials made, showing an increase from such selection of hills, ranging from 50 to 100 bushels. Such selection not only increases the yield, but more disease-resistant plants may be developed by such selection.

The method of doing this is very simple. Go into the field before the tops die down with a number of small stakes, and select hills that show plants with strong healthy tops. Place a stake at each hill you select. Select many more hills than you expect to need for seed, for when they are dug, there will be only a part of the seed hills that will meet your requirements. At digging time, go thru the field and dig these hills that you have marked. Do not take seed from hills that fail to produce less than six marketable potatoes. Reject the entire hill for the same reason that you would not select a pig for breeding from a litter of two or three pigs. If you wish to convince yourself more thoroughly of the truth of these statements, select at least a few hills this year and plant in a row next year and

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It is not known whether there are insects in sufficient numbers that will effect satisfactory pollination of the plants. Any disturbance that will trip the blossoms at the critical period will bring about pollination, and when weather conditions are favorable, will result in seed formation. Passing a roller or drag over the alfalfa when the largest number of blooms are out has been tried in some of the western states with good results. Such treatment not only trips the flowers, thus effecting pollination, but also retards the vegetative growth and thereby induces seed formation.

It seems probable that strains of alfalfa better adapted to Pennsylvania conditions might be produced by growing seed under our conditions. It is hoped that some of the readers of the Pennsylvania Farmer will try the production of seed on a small scale and in an experimental way, and that they will report the results of their trials for the benefit of the readers of this paper.—Prof. F. D. Gardner, State College, Pa.

SPRAYING HEDGE FENCE

Several years ago long lines of hedge fence were set in this and adjoining counties. Partly because an official of the company went "crooked" and a good deal because of the newly recognized fact that Osage Orange is susceptible to San Jose scale, the movement died out entirely.

On our farm is a hedge fence 40 years old. It has been supplemented by a woven wire fence, and is kept well trimmed at an annual expense of from three to four cents per rod. It is the most efficient fence on the farm; nothing ever goes over or thru it, nor tries to do either.

We spray this hedge each spring with lime-sulfur solution. This spring I did this job myself with barrel sprayer and tripple nozzle, such as we mount on common wagon box for spraying fruit trees. A quiet team may be kept on the move by using such an outfit, and not over an hour was used in spraying 50 rods, both sides. The cost of material was about 50 cents. This hedge is perfectly thrifty, altho in close proximity to trees once badly infested with scale. I believe that those who have good hedges of Osage Orange should cast aside prejudice of all kinds and maintain them in good condition.—Geo. P. Williams, Delaware Co., O.

Potato Tuber Moth.—The U. S. Department of Agriculture calls attention to a new potato insect pest, known as the Tuber Moth. The infestation is carried over the winter in seed potatoes, and the Department advises careful sorting early after planting, storing seed in moth-proof bins and fumigation of seed with carbon bisulfide.

School of Horticulture for Women.—Announcement of courses of study in the School of Horticulture for Women at Ambler, Pa., is out. It may be secured upon request to the above address.

Soil Culture and Modern Methods.—We are in receipt of a particularly valuable 275-page book with the above title, just issued by Deere & Co., Moline, Ill. It is full of valuable suggestions and instructions in the various branches of farm work, much being taken from the records and practice on the Deere Farms. The subject matter covers all classes of live stock, all simple crops, and studies, manure and fertilizers, irrigation, rotation, roads, and tables of miscellaneous information. The book will be mailed free upon receipt of 25 cents in stamps or silver in return postage and packing. Address Deere & Co., Publicity Department, Moline, Ill.

Horticulture

TRAINING BERRY BUSHES

The trellis system of training berry bushes, particularly blackberries and raspberries, while employed to some extent, would seem to be expensive and unnecessary. It involves considerable expense for material and labor and is



TRELLIS SYSTEM OF TRAINING RASPBERRIES.
Expensive and Unnecessary.

entirely superfluous, provided proper pruning has been done.

It is quite essential that berry bushes should be pruned if they are to bear from year to year, and when they are correctly pruned trellis supports will not be needed.

All the old wood should be cut out and removed as soon as possible after the crop has been harvested, in order that the new canes will have a better chance to grow and develop into strong fruiting wood for the next year's crop. Four or five of the more vigorous canes should be left, all other canes or suckers being cut out. It is in the pinching back of the young canes at an early stage in their growth that the necessity for support of any kind is eliminated. If the canes are allowed to grow to a height of four or five feet before they are checked, they will naturally have to be given support. If, however, they are stopped when about 30 inches in height, they will make such a stocky, heavy growth as will enable them to



WELL-PRUNED RASPBERRIES.
They Require No Trellis

carry their fruit unaided by support of any kind.

The pruning method saves time, labor and expense, and permits of cultivating the plants to better advantage.

The illustrations given above represent the trellis method and the pruning method of caring for berry bushes, and tell their own story.

"LAYING BY" CROPS

"Laying by," or the last cultivation of such crops as cantaloupes, cucum-

bers and watermelons, requires more skill, if injury to the crop is to be avoided, than almost any other operation on the truck farm. While less skill is required in laying by tomatoes and sweet potatoes, still these and the many other crops on the average truck farm need to be given the most careful attention at this cultivation.

Preparation for the last cultivation should begin with the first. It is the height of folly to neglect the crop during the early part of the growing season with the idea of cleaning it up and making up for early neglect at the last cultivation. The time for using the plow is in the spring before the crop is planted. The time for deep cultivation, if ever there is such a time, is before the growing plants have filled every inch of the soil with their foraging roots. The chief enemy in the grass line is the Crab Grass; sandy soil seems to be so well supplied with the seeds of this pest that, no matter how long a field is given clean cultivation, it starts up after every rain in such abundance that if a field is left uncultivated for two weeks it will soon have the appearance of a lawn.

Practically the only time to conquer this grass is when it first gets a start—about one day after a rain if the weather is warm. At such times use as many cultivators as possible and keep them going until every spear of that crab grass is rooted up. While this frequent cultivation involves con-



PICKING PEACHES ON FARM OF S. H. STANGER & SON,
Gloucester Co., N. J.

siderable time and labor, it has the added value of securing a dust mulch over the entire farm, which mulch does so much to conserve soil moisture.

In the early cultivation of such crops as cantaloupes, cucumbers and watermelons we use the five-tooth cultivator, with the two teeth on the right (next to the hill) set up so as to run shallow. Then as the vines begin to run, indicating that the roots are spreading out in their search for food, we set all the teeth to run shallow. In order to run the cultivator thru the rows at the last cultivation the vines have to be turned out, i. e., every other middle is opened by throwing the vines of two rows into one middle. For this purpose, we use what is known as the scalper, a handy tool which has almost supplanted the hoe on the sandy soil of South Jersey.

In turning the vines the operator runs the handle of the scalper under the vines, lifts them from the ground, and hops them directly over on the other side. The triangular or cutting part of the scalper is then brought into position over the hill by a simple twirling motion, and after the side of the hill which is now free from vines has been scalped, the tool is again turned so that

the handle end is down and the operator is ready for the next hill. The vines should always be lifted and flopped directly over rather than twisted around, as this latter motion disturbs the roots.

The place for the "boss" in laying by the vine crop is behind the cultivator. The cultivator teeth should be set shallow as possible. If they are somewhat worn out, so much the better. In passing each hill the cultivator is slightly raised on the right side so that the teeth barely touch the hill. As soon as a few middles have been cultivated the men with the scalpels should be sent back to open the middles in which the vines were thrown first, and scalp the other side of the hill. Just as soon as these are cultivated, the vines should be spread out in as nearly a natural position about the hill as possible. Sometimes if the vines are not too thick this can be done with the handle of the scalper or a pointed stick; otherwise they will have to be spread out by hand. Very few rows should be left for any length of time with the vines turned over, especially if the sun is hot. The sun seems to injure the blossoms, resulting in a poor set of fruit.

The laying by of tomatoes requires much less labor. With this crop the vines are allowed to stand as they are and the cultivator is run but once to the middle. This should be done just before the middles appear to be closed by the vines, about the time the first

in lands. This leaves practically all the vines on one side of the hill, so that the men following with the scalpels can throw them out with one sweep of the tool. The greatest care should be taken to have the vines loosened from the soil about the hill; otherwise they will "cap" or take root, and when digging time comes the hill will be filled with a lot of little rooty potatoes, few of which will have reached marketable size. It matters little which way the vines are thrown. Some claim that they should be turned toward the sun so as to shade the ridges as much as possible; while others claim that the sun should be allowed to strike the hill. We prefer to throw the vines of three rows one way; the next three being thrown the opposite way. This leaves every sixth middle without vines. At digging time this is very convenient for the potatoes can be shaken off or piled in this middle, leaving few vines to bother in the sorting and basketing.—Harris T. Kille, Gloucester Co., N. J.

HARDY PEACHES FOR EXPOSED LOCATIONS

It does not pay to grow peaches in a commercial way in a great part of Pennsylvania and neighboring states because of an unfavorable climate. Often, too, the transportation facilities to these sections are such that peaches are abnormally high in price, if they are to be had at all. It would, of course, be folly to recommend large commercial planting in such sections, but by a careful selection of varieties and by paying some attention to the location of plantings, peaches for home use and for local markets may often be quite regularly grown.

Climatically these sections may be divided into three groups: First, where the temperature is likely to fall to 20 degrees below zero or lower for any considerable length of time; second, where hot days in mid-spring are often followed by frosts at night; and third, sections which have both of these disadvantages. Such locations are trying for all fruits, but since peaches are the least hardy of the tree fruits commonly grown in the north, they are the first to suffer. Peaches also have the further disadvantage of blossoming earlier than most other fruits, and so are often caught by late spring frosts.

In selecting varieties for these unfavorable sections it is essential to fit them to conditions as far as possible. There is a difference in the hardiness of peach varieties and also in their ability to withstand frosts at or after blossoming time. These varieties may be classified as follows:

Temperatures			
(a) Varieties Hardy to Severe Winter	Kind	Color	Stone
Crosby	"	yellow	free
Elberta	"	"	"
Gold Drop	"	"	"
Stevens' Rarierpe	white	"	"
Hill Chili	yellow	"	"
Wager	"	"	"

Frosts			
(b) Varieties Hardy to Late Spring	Kind	Color	Stone
Greensboro	white	"	cling
Carman	"	"	free
Belle of Georgia	"	"	"
Triumph	yellow	"	"
Crosby	"	"	"
Hill Chili	"	"	"
Stevens' Rarierpe	white	"	"
Gold Drop	yellow	"	"
Wager	"	"	"

It is apparent that varieties in section (a) are best adapted to localities of severe winters, and those in section (b) to localities where there is a likelihood of late spring frosts. Happily there are varieties common to both, so that in localities of severe winters and late spring frosts the following varieties

ties might have a possibility at least of succeeding: Hill Chili, Gold Drop, Crosby, Stevens' Rarierpe and Wager.

Fortunately, too, we are able to prepare trees to a degree to meet these unfavorable conditions. For example, well matured wood is more hardy than poorly matured wood. In localities of severe winters, then, peaches should be planted in light, well-drained soil, should not be heavily fertilized, and cultivation should cease in mid-summer. They should, however, be kept in perfect health. Further, buds start earlier and open sooner on a sunny, southern slope than on a shaded northern slope, and are more likely to be injured by late spring frosts or by warm, sunny periods in winter followed by severe weather. A protected northern or northeastern slope is therefore to be preferred.

We may sum up the peach question for these unfavorable locations, then, as follows: Select the varieties best suited to the locality as indicated by the above lists; plant on rather light, well-drained soil and on a sheltered north or northeast slope; fertilize sparingly and keep the trees healthy by frequent sprayings; kill all borers regularly; see that no depressions are left around the trees in which water may collect during the winter; and do not cultivate late in the season or do anything to encourage a growth of wood after mid-summer. Last, but not least, do not plant on low, level bottom lands or in depressions or pockets where there is a poor circulation of air, for there frosts are more likely to occur.—W. J. Wright, Alfred, N. Y.

ORCHARD TOPICS

It is possible that the orchard might make a good pasture, but it is not advisable to make a pasture of the orchard.

During the dormant season moss can be cleaned from fruit trees by spraying with concentrated lye, using a pound to six gallons of water. This will make the bark hard and brittle and clean.

Rabbits can be prevented from gnawing orchard trees by the use of the following mixture: Take 1 gallon carbolic acid, 4 pounds of sulfur, 2 gallons soft soap and 32 pounds of lime. Mix the soap with enough water to slack the lime, then while hot mix in the sulfur and acid. If applied about the first of April, it will act as a preventive of borers.

The "trimming up" plan is the best for old orchards. The bottom limbs should be cut off to a point three or four feet from the ground; then the ends of the more lengthy branches should be cut off.

While there is no sure cure for blight in pear trees, there is a possibility of saving the trees by properly cutting off all branches which are the least bit affected.

Some peach growers believe in soil culture. During the time the trees are growing the soil is worked, and a clover crop is sowed in fall and plowed under early in the spring. It is a mistake to leave clover crops until they suck too much moisture from the soil at a time when it is required by the trees.

The best time to scrape old bark off apple trees is on wet days. Care, however, must be taken not to injure the live bark.

Trees should never be planted until the ground is ready; neither should they be planted in a soil that is not thoroughly underdrained and enriched before planting.

For covering cuts on trees, use the following mixture: Melt resin and warm a little crude petroleum in separate vessels, pouring into a third vessel three parts resin to one of petroleum. This will seal the wound until grown over. The mixture will not

run in warm weather, nor will it crack in cold.

Shallow cultivation must be done in the plum or cherry orchard so that no roots will be broken. Broken roots will send forth shoots that sap the life of the trees.

An old fruit grower uses a pick in the orchard, and deems it his best tool. When the ground around the apple trees is hard, he sinks the pick eight or ten inches into the soil and merely pries the dirt loose, without disturbing the roots at all.

August is the time to look for borers. The soil around the stems of fruit trees should be dug away to the depth of three inches, and the bark scraped with a knife. Should any sawdust or exuding gum be found, it is time to get to work. Dig out the borer and wash the uncovered parts with a mixture of soft cow dung, lime, wood ashes and a little crude carbolic acid. Then put back the soil.

A wound made by cutting off a limb close to the trunk of the tree will soon heal over, but a wound made by cutting off the limb two or three inches from the trunk will lead to decay and often causes the death of the tree.

Diseased wood can never again be made new. It should be cut off and another shoot allowed to grow. There is danger of losing a tree by allowing diseased wood to remain on it.—Boyd Michael, Atlantic Co., N. J.

CLIMBING CUT WORMS

I am sending you one of our Baldwin apples for examination. We do not know what is the cause of the defect shown hereon, as apparently no worms or squirrels are bothering the fruit. If you can explain the cause and its treatment, will you kindly do so?—E. M. E., New Milford, Pa.

It is my opinion that the injury to your Baldwin apples is by the climbing cut worm. This is a peculiar pest. It lives in the soil during the day, and climbs trees at night and feeds on the leaves and fruit. It much prefers the fruit where it can find it. There are two very good remedies. One is to spray with an ounce of arsenate of lead in each gallon of water or dilute lime-sulfur, or bordeaux mixture, if you wish to use a fungicide at the same time. The other remedy is to make up a poison mash by using about 30 parts bran and 10 parts shorts or middlings, and 1 part either paris green or dry arsenate of lead. Mix this together thoroughly while dry, then add enough water to make it damp but not thin, and add enough strong molasses to sweeten it slightly, and put a quarter of a teaspoonful of this on the ground at each side of the tree. If the tree be of a large size, place the poison mash around it at a distance of not more than six inches apart. It is best to place it at the foot of the tree or plant to be protected in the evening, so that it will be damp and fresh when the climbing cut worms come from the soil, and are ready to seek their food by climbing during the night. This method of protection can be used effectively on grape vines, and even on garden plants, like tomatoes and others. Of course, it should not be used where domestic animals and fowls will find it and eat it; but it can be placed under boards, or in the morning can be covered with loose earth. The cut worms will find it and eat it readily if placed under boards, where it can remain as long as desired.—H. A. Surface, State Zoologist

Orchard Spraying Experiments.—Bulletin No. 212, of the Maine Station, mailed from Orono, Me., gives the results of comparative tests of the orchard spraying investigations carried on at that station during 1912. It includes experiments with fungicides and with different arsenicals and a discussion of the results, in each case.



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Poultry

A VISIT TO WOPSY POULTRY FARM

It was on a gloomy, snowy winter's day that we found opportunity to get away from institute work for a half day and realize a long-cherished desire to visit the poultry farm of J. W. Parks, of Blair County, Pa.

We found Mr. Parks busily engaged in fitting up a new office, but he gave us a hearty welcome and every opportunity to see what he is doing in developing a remarkably heavy laying strain of Barred Plymouth Rocks. One of the most striking features which came to our attention is the very high average records made by his flocks, as shown by his individual records; in other words, the very few poor layers among his fowls. It is an extremely important thing to have a flock of hens which average uniformly good in egg production rather than a few hens of unusual laying capacity among many of low-producing capacity.

Mr. Parks, who is in good financial

PULLETS AND THEIR WINTER QUARTERS

Great care should be exercised in getting pullets into winter quarters. Such quarters should be thoroughly cleaned out and disinfected, plenty of clean, fresh straw put in, and clean nests should be provided. The house and litter should be kept as dry as possible.

The drinking vessels used in the house should be thoroughly rinsed out each morning. If chickens are compelled to drink out of slimy and dirty vessels and to eat from damp, moldy litter, they are apt to contract various diseases.

A good balanced ration for pullets at the time they are being sheltered for the winter is a mash consisting of bran, 1 cwt., middlings, 1 cwt., beef scrap, 1 cwt., gluten meal, 1 cwt., corn meal, 1 cwt. This should be fed in hoppers where the hens may have ready access to it. A grain ration consisting of wheat, 2 cwt. and cracked corn, 1 cwt., should be fed in the litter, so as to require exercise on the part of the fowls in obtaining it.

From three to four ounces of feed daily per head is sufficient, the proper proportion being about one-half mash

A small plot of ground may be sown with alfalfa, the soil being worked very deeply and the sowing made at the rate of 25 pounds to the acre. This is cut and cured and fed thus, or else it is fed green. Such a plot will furnish fodder season after season, and will not suffer greatly from dry weather after it is established. One-quarter of an acre should yield at least one ton of hay containing 375 pounds of protein, or as much as would be supplied by 3,400 pounds of wheat grain.

Ordinary red clover may be used in the same way as a poultry food. Millet and oats are useful for the poultry. The fowls should be allowed to thresh out the grain for themselves. Pearl millet should be sown about 10 pounds to the acre, in drills; oats 20 or 30 pounds to the acre.

Cabbage, collards, lettuce, beets, carrots and turnips are fine for the fowls, and onions do not come amiss in the winter mash. Corn has its place in the poultry ration, but merely as one of the grains to be fed; and it should not be used to the exclusion of others. A small plot of one-quarter of an acre will grow enough for a year's feeding of a flock of 75 hens, where other foods are supplied.

Alfalfa, clover, millet or oats should be well cured and stored in a mow or other dry, ventilated place; corn, preferably in a ventilated bin, if shelled, or in a crib if stored on the ear. Vegetable tables for the poultry should be buried or stored in a cellar, with the exception of cabbages—always bury them in earth out of doors.—M. Roberts Conover, Monmouth Co., N. J.

LIMBER NECK

This disease is fortunately unknown to many poultry raisers. And yet if it should chance your way for the first time, the suggestive name will enable anyone promptly to recognize it from the prevailing symptom. The fowl seems to have suddenly prolonged its neck, for the muscles are paralyzed and rendered useless, and it becomes limp and unmanageable. If the case is that of a young chick or turkey, it will seldom if ever overcome it unassisted; tho the mature fowls may get well without doctoring.

Bleeding under the left wing is an old-time remedy, quite in accord with that of the household physician, who resorted to this remedy for many serious ailments of the human body. But few of us now have either time or inclination for such treatment in the poultry yard, even tho we have the faith in this method. There are easier and better ways. It is claimed that 17 drops of nux vomica in one pint of drinking water has often affected a cure.

There are various causes of the trouble. It may be imparted by decayed meat. In this connection just notice how, if the fowls have access to the refuse from a slaughter house, they will naturally plunge into the most re-

volting part of it—a good indication that it pays to keep things cleaned up if you raise fowls. Maggots, mould, and even acute indigestion will induce the trouble. Personally, we have never had or seen but one case. A young turkey from stock which was later found to be subject to this disease, was the victim. And this causes us to think that the germs may be transmitted in the egg; for not a single case have we ever had before or since. Certain it is that where limber neck gains a footing there should be a rigid cleaning up, and a careful watch should be put upon the fowls, both old and young, to see that they do not gain access to food or surroundings of an unwholesome nature.—Bessie L. Putnam, Crawford Co., Pa.

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Live Stock

PREVENTIVE TREATMENT FOR HOG CHOLERA

It has been recently discovered that live hogs may be treated (vaccinated) with hog-cholera serum so that they will not take the disease if exposed later. Such treatment is called immunization. This method of treatment has passed the experimental stage and is now on a practical working basis. There are several different methods for immunizing hogs or making them immune to cholera. Immunization consists in bringing about the presence of what are called immune bodies in the blood. They enable the animal to resist such cholera germs as enter the system. These immune bodies are present in the blood of hogs that have recovered from cholera. Such animals are sometimes called "immunes."

A hog that has been treated with hog-cholera serum without exposure to cholera at the same time does not form any protective substances or immune bodies of its own. It is rendered immune for a short time (three weeks to two months), due to the presence of the protective substances injected. Such

may be contracted six weeks later or in even less time, because the immunity conferred by the serum has died out.

The double method may be used in herds in which cholera has just appeared, or in healthy herds in a locality where cholera has made its appearance. There is some risk of introducing cholera into a healthy herd by the double treatment. It must therefore be administered with extreme care, because when used carelessly, it may have the bad result of causing a large number of the treated hogs to develop vaccination cholera and thereby infect the premises. Even when used with extreme care, by experts, a small percentage of vaccinated animals (about 2 percent on a large number) contract the disease as a result of the treatment. In double vaccination both serum and virus are injected at the same time, but at different places and with separate syringes. A larger syringe is used for the serum than for the virus, because the dose of serum is considerably larger.

Inasmuch as the virus which is given contains the germs of cholera, it actually causes a mild attack of the disease in the hog treated, but the serum injected at the same time holds the disease germs in check and does not allow them to get a foothold in the hog's body. Most hogs will not show any ef-

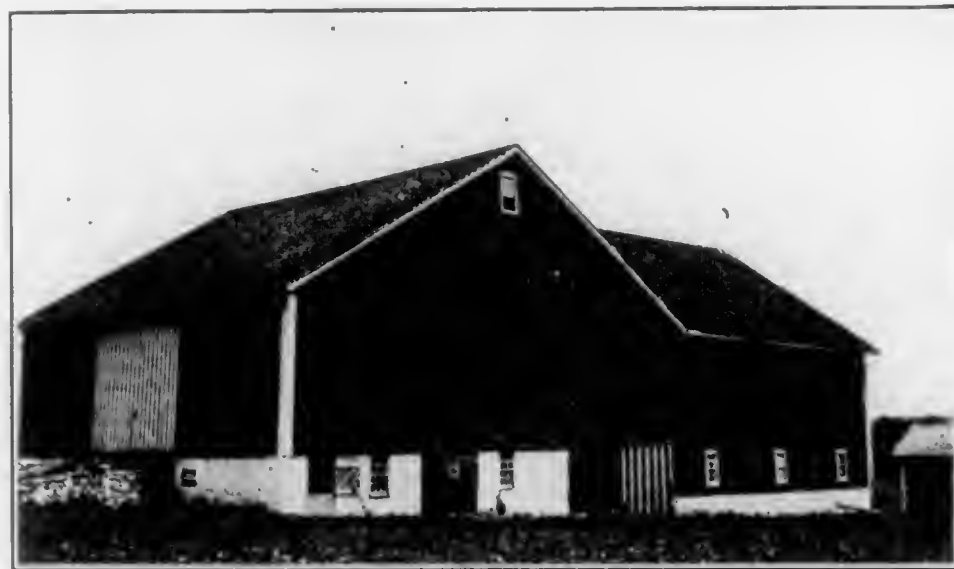
fect should also be remembered that a hog that has been to a show may bring back cholera germs to a healthy herd.

2. When hogs are well, and cholera is in the vicinity, the double vaccination is recommended, unless one is prepared to dispose of his hogs immediately. If hogs are to be kept, the single vaccination will confer only a short immunity, lasting from three to six weeks. Artificial pen exposure may be practiced.

3. When cholera has made its appearance in the herd, hogs which are not extremely sick or in an advanced stage of the disease should be treated immediately by the serum-only method. Delayed treatment will bring disappointing results.

In case it is impossible to secure serum immediately and the owner decides to send the hogs to market, this may be done. The following regulations of the Bureau of Animal Industry apply to hogs affected with cholera: (1) Hogs showing advanced, well marked lesions of cholera are condemned outright. (2) Hogs showing less extensive lesions are not condemned; but may be rendered into land under prescribed conditions. (3) Hogs that show only slight, limited lesions on post-mortem examination may be passed for food, provided the carcass is well nourished.—Minnesota Extension Bulletin.

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A TYPICAL LANCASTER COUNTY BARN.
Owned by Hart G. Coates, Southern Lancaster Co., Pa.

treatment is known as the single or "serum-only" method. On the other hand, a hog that has been treated by the single method, and exposed to cholera at the same time, will usually form its own immune bodies in its blood, sufficient to render it permanently immune. The function of these immune bodies, or protective substances, in the blood appears to be that of neutralizing or rendering harmless the cholera germs when they gain entrance to the hog's body.

When it is desired to make a hog permanently immune, and there is no cholera yet in the herd, it is necessary that hog cholera germs be introduced into his system simultaneously with the serum, which protects the hog from the cholera germs injected. This is accomplished by the introduction into the hog's body of a small amount of virus. Virus is the germ-laden blood obtained from a hog sick with cholera. It is injected at the same time with the serum, but with a separate syringe. By this method the hog is enabled to develop enough protective substances of its own to render it permanently immune. This is known as the double, or "serum-virus" method of treatment.

We advise single treatment for herds recently infected. From experience we have learned that it is not a good plan to use serum in herds where the disease has prevailed for a long time, or where a large part of the hogs have died, and where many others are sick. Some disappointing results have been obtained by using the single method in unexposed herds, because the disease

feet from the double vaccination, but a few may refuse a feed about the fourth or fifth day, and then he all right again in a day or so.

Some hogs are much more susceptible to cholera than others, or, on the other hand, some hogs have much more natural immunity against cholera than others. Herd after herd may be vaccinated by the double method without a single case of cholera developing as a result. Then a herd may be vaccinated by the same veterinarian, using the same serum, and a number of cases of cholera develop afterward. This can be explained in two ways: (1) These hogs may have been infected before the vaccination, but not long enough for symptoms of cholera to have developed; or (2) the great variation in natural resistance possessed by hogs may explain these disappointing results.

It will be seen from a comparison of the single and double methods that in the former the cholera germs present in an infected herd answer the same purpose as the virus given in the double method. Instead of the hogs taking the germs into their systems in a natural way when the single method is used, they are actually inoculated with the germs when the virus is injected.

What to Do in Cholera Cases

1. When hogs are well and no cholera is in the vicinity, we do not advise vaccination, provided every precaution is taken to prevent infection from entering the herd. Hogs should not be taken out of a healthy herd and sent to a show for exhibition purposes without being protected with serum. If

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Cheshires—The pig that pleases the local breeder and his customer. F. W. Card, Sylvania, Pa.

Modern Conveniences For the Farm.

By EDITH CHARLTON SALISBURY.

Everything Is Possible When One Can Afford It, But Much Can be Done With Little Money to Make the Farm Home More Comfortable

Many people interested in farm home conditions have given much thought to this question, and are still pondering it: Why are not more farm homes equipped with those modern conveniences and labor-saving devices which not only make work easier and pleasanter but which also result in better health, and probably longer life for farm women?

There are just two or three answers which impress themselves most firmly on the minds of these people who are seeking for a solution to the problem. One is that some women do not want to change their methods; some of them would rather die than do that, as shown by the woman who tells you with an air of martyr that "she will keep going in the same old way until she drops in her tracks." Another answer is the general lack of information regarding those things that will really make work lighter; because there are many things on the market advertised as labor-saving devices that are actually not worth the space they occupy in the home. Men, as a rule, are so absorbed with their own work that they do not appreciate as fully as they should some of the needs of their home; generally, they, too, are ignorant of what is practicable and necessary to lighten labor. They are very often ignorant of, or indifferent to, the economic value of a woman's time and strength.

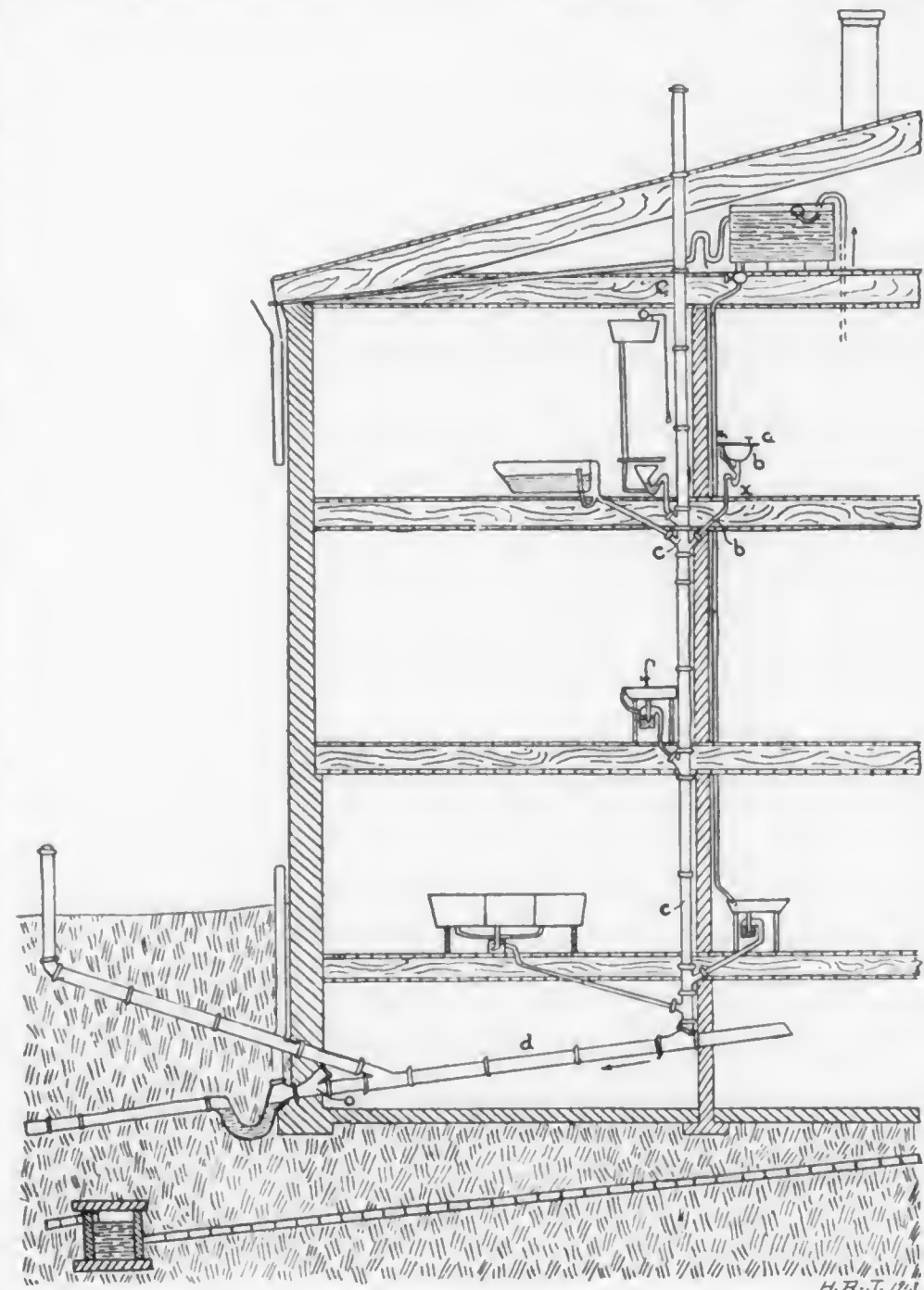
There are some other men who are apparently blind to anything but their own comfort, and so long as their standard of personal comfort is expressed by their home in its present condition it is not likely to occur to them that an equal amount of ease might be obtained by far less expenditure of effort and time. Then there still exist a few men who are too small and mean and selfish even to dream of making their homes modern and convenient. Let us return thanks that this class of men is in the minority among humanity. For the most part, women have less than they should, or might have, simply because they do not study the requirements of their work and put a false estimate on the value of their time.

In discussing the possibility of having modern conveniences in farm houses, one usually means buildings heated and lighted as satisfactorily and after the manner of city houses; also those equipped with modern plumbing. Fortunately there are enough farm houses provided with these comforts to prove beyond a doubt that they are possible in any locality. But there are enough homes without any of these conveniences, that might just as well have them, if some one were not making a mistake. So impossible do they appear to the people living in these houses that the days are counted until the farm home can be exchanged for one in the city. To move into town for the sake of procuring what is generally known as town conveniences is exceedingly poor policy on the part of the farmer. It would be much cheaper and better for the family to provide every modern appliance and install a private water and sewer system on the farm than to go into town for them. The family that can afford these things by moving into town can afford to have them in the country.

"But think of the money it will cost," some cautious farmer will say. Yes! They do cost money; all good things are costly. Even modern machinery is expensive. A binder is not cheap, and a motor gang plow costs al-

most a small fortune; each can be used only a small part of the year and wears out before many seasons have passed. When they are worn out, they are at once replaced by new ones of later models, if possible. A good driving horse and a good-looking buggy cost a lot of money, and yet any farmer who takes any sort of pride in himself or his family drives good horses and owns a good buggy. More than that, many of them are not satisfied with a horse and carriage, they must have automobiles. These are the farmers, too, who are beginning to think about moving into town in order that they may have a few more luxuries.

Practical Water and Sewer Systems
Many farmers own a gasoline engine for running farm machinery and for



HOT AND COLD WATER EQUIPMENT FOR COUNTRY HOME.
Arrangement Shows Proper Placing of Fixtures for Efficiency and Cheapness.

pumping water for the stock. This gasoline engine ought to be the connecting link between the machinery of the farm and that of the house. It can be made to pump water into an automatic air-pressure water system which gives a pressure of 70 pounds to the square inch. The modern tanks are buried in the ground or placed in the cellar, and are proof against any degree of frost. This pressure of 70 pounds to the square inch is as good as that provided in the city, and sufficient to carry water into both house and barn, and it is possible to have it hot on the first and second floors of the house.

But the cost! For the water system, probably from \$150 to \$200, and less if you are fortunate in finding the right man to install it for you. Then a soil-purifying and absorbing sewer system can be put in at a cost of not more

than \$150 more; that amount being a generous outside figure. It has been estimated that all the fixtures for a bathroom, of good serviceable quality, can be bought and put in for the price of a good covered buggy or for a very small part of an automobile, and with ordinary care the bathroom will outlast either of the others many times over. So you see from \$400 to \$500 will equip the country home with those conveniences which, until a few years ago, were considered as luxuries confined to the city.

Someone who reads this is sure to raise the objection that even that much money is too much to spend on a farm house, but he is generally the man who says to his wife and daughter: "My mother got along without those things, and what was good enough for her is good enough for you." He is the kind of man who will pipe the water from a spring into the barn, but never dreams of piping it into the house as well. These things do cost money, but no more in the country than in town.

A septic tank for the disposal of

ed, to allow the liquid, now perfectly clear and thoroughly purified, to seep thru into the soil. The tile drains do not freeze, even in very cold climates, because the action of the bacteria in the liquid develops a certain amount of heat, and also because only a small amount of water passes thru the tiles at one time. The septic tank should be covered with planks to facilitate cleaning, if this is ever necessary. Two or three feet of soil should be put over the planking, and this should be sodded. A necessary feature of this system is a ventilator which leads from the compartments to the outside to prevent the escape of gases back into the house drain. One advantage of this system over the old-style cesspool is that the purification of the sewage before it is carried out in the tile drains prevents the pollution of the soil, which was always a menace to health.

Before a plumbing system can be put into any house in a locality where the temperature goes much below freezing, it is necessary to install a heating system; but a good hot-air furnace can be put into the average house at a cost of about \$25 a register.

Handy Servant in the House

In the list of desirable appliances for lightening labor in the farmhouse I would certainly include power machinery. If the gasoline engine used for the farm machinery can not be spared to do the housework, too, a small one should be bought for house use entirely. This small engine (about one and one-half horsepower) can be bought for from \$30 to \$50, and it can be attached to the cream separator, churn, washing machine, sewing machine, mangle and a vacuum cleaner, if you are fortunate enough to possess that name of comfort and cleanliness. In many farm homes this little engine has replaced hired help entirely, and has not only solved the problem of the scarcity of labor but actually does the mechanical work cheaper and better.

Some person recently took paper and pencil and made an inventory of the number and probable cost of implements used on a small farm. They were all articles that make for easier and more profitable farming, and none was extravagant in price, but they totaled \$700. The labor-saving devices for woman's work on the same farm were limited to the following:

Sewing machine	..... \$50
Washing machine and wringer	.... 15
Bread mixer	..... 3
Total	..... \$68

Following the example of a certain cereal company whose most expressive advertisement used to be the name of its product, followed by the words "Enough Said," I need do nothing more than turn the searchlight of your intellect and your sense of the fairness of things on these two equipments actually found on an American farm.

Different Conditions Require Different Aids

It is impossible to tell any woman what she really should have in the way of labor-saving devices; so much depends on individual conditions and needs. But this much can be said: Any convenience that is possible in the city is possible in the country. If, by moving into town you can have your house heated by hot air or hot water and lighted by gas or electricity, you can have all those things in the country and at less money, if you consider that when you move into town you must either buy or rent another house, possibly selling the farmhouse at a sacrifice to do this. If you have the money and the desire, there is nothing in the way of modern improvements that you can not have in your farm home. Just by way of illustration, let me tell you of the equipment that is found on

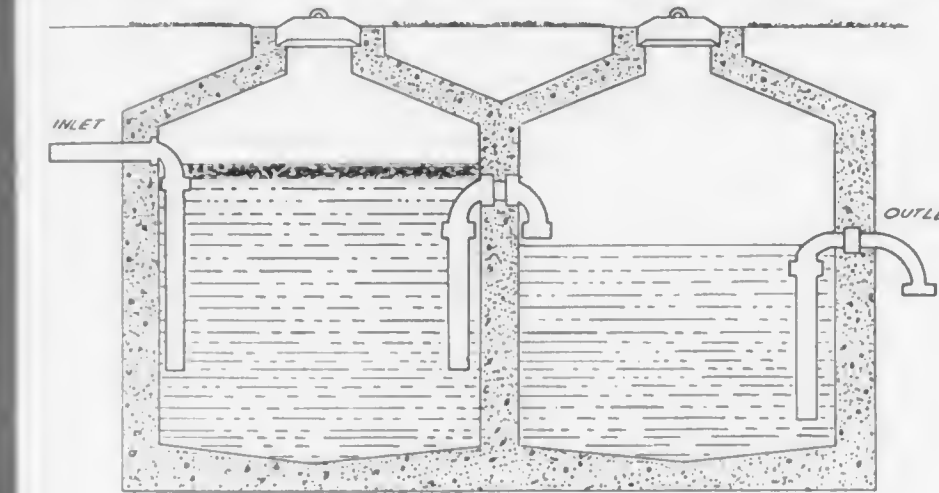
a big farm in Colorado. It is too large and too elaborate to be practical in any but a large farm, which supports a big family in luxury.

The four-story house has a hot-water system thruout; two bathrooms, two lavatories, an electric light system and an acetylene gas lighting system, a perfectly equipped laundry with stationary tubs and power machinery, drying apparatus, etc., vacuum cleaner in the basement with connection to each of the four floors, dumb waiter, clothes chute to the laundry, a complete cement basement. The entire equipment is operated by a gasoline engine which cost \$100, and this engine also pumps water into a tank at the barn. The vacuum cleaner cost \$150, and costs three cents an hour to run. In the laundry with the power machinery it takes one woman only four hours to do the entire washing for a family of 15 persons. The owner has estimated the total cost of everything, including heating and lighting, vacuum cleaner, all plumbing fixtures and other details to have been about \$2,000. That is a big sum of money, and yet not exorbitant

sugar with enough boiling water to melt it and let it come to a boil. Skim if anything arises to the top, and boil 10 minutes. Have ready your two pounds of fruit of uniform size, peeled and quartered. Drop into the boiling syrup and cook without stirring for 10 minutes very hard. Draw back and let it cook slowly without scorching or stirring for one hour. Then put in a large clear glass jar or pitcher and cover with a white cloth, tied on securely. Set in the sun and turn occasionally. The pears should be a clear amber color. If the pieces are very large, extra boiling will be needed. A good plan is to cut the quarters in two if very thick.

Peach Preserves.—Proceed as above. Have very ripe but not mushy peaches. Sun for two or three days, according to thickness of syrup. Carefully insert a spoon and test the thickness of the juice. It should be like thick syrup. Seal in glass jars.

Quince Preserves.—Allow pound for pound of granulated sugar after the quinces are peeled and cut in quarters or eighths. Make the syrup with a little boiling water and put in the fruit.



SEWAGE DISPOSAL SYSTEM.

when one considers that in less than three years it will pay for itself in saving the wages of help, and also when one takes into account the comfort it brings to that farm. Not one farmer's family in a hundred could use such an expensive equipment; it is given here simply to show what luxuries one can have right in the country. And the family which has modern conveniences, even on a much more simple scale, is not waiting for the time to come when it can move into town.

Co-operation the Right Spirit

In the home, based on the right co-operative principles, it should never be necessary for the wife to beg, coax or fight for money for new or additional equipment. There should never be the slightest hint that the new washing machine, the new wringer, or anything else necessary in the working part of the house has been procured at a sacrifice, either of self-respect in asking for it, or of something supposed to be more necessary on the farm. In every well managed farm home a certain percent of the income will be set aside for household equipment, and that percent, be it large or small, should be in fair ratio to the amount set aside for farm equipment.

COMPANY PRESERVES

By Hilda Richmond

For very special occasions it is worth while to take extra pains in making preserves. It never pays to try to make a great deal of preserved fruit at once, as it is sure to be dark colored. Neither does it pay to undertake the task on a rainy or gloomy day, as muddy-looking fruit is sure to result. A clear, sunny day and a small amount of fruit are two requisites to insure good company preserves.

Pear Preserves.—To two pounds of fruit allow one and one-half pounds of granulated sugar. Make a syrup of the

Philippine women receive as a salary would make the ten-hour day of the saleslady look like luxury itself. From 12 to 25 cents a day is the salary, which is about 35 centavos in Philippine money.—Dr. L. K. Hirschberg, Maryland.

A HINT TO TIRED BABIES

When you are so cross, and hot and played out, get mother to put some fresh water in the bath tub or wash tub and set you down in it. It is the most fun! It cools you off, makes you stop itching, cleans out the pores of your skin so that the poison forming in the blood can get out, and so stops the irritation and makes a new baby of you.

If she is busy getting dinner and the day is hot, you can play there until you get tired. Or, you can play in the empty tub after the water is gone. When you get bigger it is the finest place to sail boats in, and that always puts children in a good humor. In fact, water in a tub will do more to put children in a healthy state of mind and body than anything I have ever discovered. It saves more whippings than anything else, and more headaches from scolding. If a child is busy, he is happy; and when he is happy, he's good.—Evelyn Harris, Maryland.

PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct fitting of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt and age for children's patterns. Address: Pennsylvania Farmer, 214-18 So. 12th St., Philadelphia, Pa.



5822—Girls' Dress, with Long or Short Sleeves.—Cut in sizes 6, 8, 10 and 12 years. Age 8 requires 34 yards of 36-inch goods; 1 yard of 27-inch contrasting goods. Price, 10 cents.

6319—Ladies' Dress.—Five sizes, 34 to 42 inches, bust measure. Size 36 requires 64 yards of 36-inch material, or 34 yards of 44-inch. Price, 10 cents.

6061—Misses' and Small Women's Dress; Three-Gored Skirt.—Three sizes, 14, 16 and 18 years. Age 15 requires 44 yards of 36-inch material and 1 yard of 27-inch contrasting material. Price, 10 cents.

6173—Misses' and Small Women's Balkan Waist or Middy.—Three sizes, 14, 16 and 18 years.—Age 16 requires 3 yards of 36-inch material; 1 yard of 27-inch contrasting material. Price, 10 cents.

6250—Girls' Dress.—Four sizes, 6 to 12 years. Size 8 requires 24 yards of 36-inch material, 1 yard of 27-inch contrasting goods. Price, 10 cents.



Anty Drudge.—"Anty Drudge, do you like my dress? I made it. I'm going to wear it to the Grange Dance tonight. I never had a fancy dress before, but Ma and I wash with Fels-Naptha Soap now and I knew the light blue wouldn't fade, and the lace wouldn't have to be rubbed to pieces."

Anty Drudge.—"You look sweet! I'm glad I told you about Fels-Naptha Soap. It won't hurt anything."

Fels-Naptha Soap won't harm the daintiest fabric, nor fade the most delicate color. But it will do the hardest, coars est kind of work as well and easily as it will do the finest.

All you need is cool or lukewarm water. Fels-Naptha Soap will do the rest. Clothes soaped with Fels-Naptha and put to soak are practically clean when you come to wash them. They don't need hard rubbing or boiling.

It dissolves grease on pots and pans, takes out all kinds of stains, makes dirt disappear.

Directions for doing all kinds of work with Fels-Naptha Soap are on the Red and Green Wrapper.

Fels & Co., Philadelphia.



Grange

THE FARMER, THE AUTOMOBILE
AND THE STATE HIGHWAY

An editorial in the Philadelphia Record of July 7, quotes as follows from the report of Secretary of State May, of New York: "The only way of checking the speed maniacs is to lock them up for long terms. Fines merely make them laugh. But no one laughs at going to prison for one or two years."

Again, in an editorial of July 13, the same paper says: "The laws against speeding should be made reasonable and then rigidly enforced—not with fines, which to many offenders are a matter of indifference, but with round terms of imprisonment. * * * Unless automobile accidents shall be checked the waste of human life involved in speeding will sooner or later react on the automobile industry."

In both editorials, attention is called to the fact that 99 percent of the accidents are due to reckless driving. Once more I quote from letters written by one high in authority with the strongest automobile association of Pennsylvania: "These improved roads in Pennsylvania are being built as the result of untiring efforts of the motorists of this state. They started the movement and have given their time and money to secure the law which makes them possible. * * * Regarding the attitude of the farmer toward the motorist, I have toured for 11 years, and I have been very rare indeed that I have come in contact with any who are not friendly. * * * Regarding the necessity or advisability of amending the present motor vehicle law, that is a matter which the State Federation feels perfectly competent to handle."

Once more, that we may get another slant on this question, I quote from a letter sent to me by the editor of a strong and fearless journal of this state: "I have read your account of the difficulty which you are having with the automobilists in your section with very great interest. I know from personal experience that this is just what farmers are meeting with wherever roads have reached a high state of improvement, and yet there does not seem to be any practicable or feasible way of preventing this sort of road abuse. I recently had an opportunity to talk with a number of farmers. These men all raised the objection which you describe. While the road has been put in excellent condition for travel, it is used less by the practical farmers than it was previous to its improvement. * * * The automobiles have simply monopolized it and the farmers avoid traveling over it as much as possible."

Here we have a flat statement that the farmer is being effectually barred from use of improved roads, a statement which investigation will show to be perfectly true. The Secretary of State, who has the licensing power in New York, uses strong language in demanding jail sentences for speeders; independent papers are taking up the same cry. The toll of life is too heavy, the imposition on all other forms of travel too open, notorious and contemptuous.

Well, what answer do we get from the automobile associations, the people who have spent "time and money" in procuring laws, and who "feel perfectly competent to handle" the question of revision of these laws regulating motor travel? In the session of 1913, the single amendment raises the speed limit in small towns from the 12 miles formerly allowed to 15 miles. There is your answer: the hold of

strangling and inhuman legislation made still stronger.

Why is it that there "does not seem to be any practicable or feasible way of preventing this sort of road abuse"? Because the automobile lobby dictated the law of 1909, which was specifically drafted to make it difficult to control motor travel; which most unfairly throws all the burden of proof of violation of law on the farmer who is not equipped to sustain this burden; and which carefully robs the law of its sting by making first, second and all subsequent offences, except those which endanger other motorists, subject only to fines, which, as Secretary May says, merely make the motorists laugh.

It is, as claimed, due to "the untiring efforts to the motorists" that we have this system of speedways, which we are graciously permitted to view from a safe distance; similarly it is due to their unsparing "use of time and money" that we are to be permitted to vote \$50,000,000 more for the extension of this moving picture show.

The automobile associations today stand only for commercialism; legislation procured at their behest is responsible for many a preventable death and injury; their entire organization, seeking as it does to establish privilege at the expense of law and good citizenship, requires at our hands a rebuke as stern and so clear as to require internal changes in management and policy.

So long as the executive of such an association, under conditions of today, can write that he finds the farmers friendly, and can decline even to consider legislation suggested for the purpose of saving innocent life, the association itself is un-American and its ultimate influence is sinister.—A Plain Citizen.

AGRICULTURAL CO-OPERATION

It is announced that a nation-wide movement in the interest of the farmers along financial, business and social lines will be inaugurated as a result of the information gathered by the American Commission on Agricultural Co-operation on its recent European journey. The purpose is to lower the cost of food stuffs to the consumer and to strengthen the position of the farmer and increase his profits. A full report will be made later, but Dr. C. J. Owens, director-general of the American commission, has issued the following statements:

"The commission is impressed with the vital importance of a thoroughly organized and united rural population. In this respect the countries of Europe offer a lesson which may not long be disregarded.

"The agricultural interests of most of the European countries visited are organized along one or more of the following lines: Credit, production, distribution and social organization. Organizations for credits are for short-time personal credit and long-time land mortgage credit. The personal credit organizations have the form of co-operative societies. They furnish cheap, safe and elastic credit.

"Land mortgage credit has been organized so as to place a collective security back of bond issues by land mortgage societies. They bring low interest rates; the privilege of repaying loans in small fixed annual instalments extending over a term of years; protection from advance in interest rates and the practical elimination of commission charges. Experience has demonstrated that land mortgage bonds are liquid assets.

"The organizations for production and distribution of farm products are co-operative. Farm products are sold by the producer at relatively higher prices and are bought by the consumer at a

relatively lower price, because the cost of distribution is lowered.

"The studies of the commission emphasize the necessity of defining the functions, on the one hand, of the government, and on the other of voluntary organizations."

The commission visited Italy, Hungary, Austria, Germany, France, England, Ireland and Wales, while sub-committees were sent to Russia, Denmark, Switzerland, Holland, Belgium, Norway, Sweden, Egypt, Spain and Scotland.—R. P. Kester.

THE BOND ISSUE AND THE EXTRA SESSION

"The burnt child dreads the fire." Evidently the Governor does not give us credit for as much sense, for he expects us to take seriously his gravely announced intention not to call an extra session. Remember this is the same official who flatly promised to veto the five-judges' bill, and as flatly broke his promise at the behest of the Philadelphia politicians. Will a man who broke such a minor promise consider a promise binding to keep away from the handling of \$50,000,000?

But the Governor is not the only one of promissory note. We have a Bigelow promising economy and reform. State roads are hereafter to be built at their real cost, and interior roads developed. And we have a Penrose promising us everything that is not nailed down. He is to campaign the county fairs this fall for good roads. It is a pretty strong incentive to us to vote for the bond issue, isn't it?

The Governor forced the reappointment of the Highway Commissioner under conditions which spread suspicion over the entire state. The malign influence of the Senator and the Commissioner on the present legislature is too recent to need comment. The five-judges' bill was intended to give the Philadelphia gang another chance to get its grip and re-establish that corruption which has made Philadelphia politics a national scandal for years. Why did the Governor sign this bill in spite of every decent paper of Philadelphia?

As conservative a paper as the Philadelphia Ledger recently called attention, editorially, to the fact that the expensive Bigelow roads are going to pieces, altho most of them are not over a year old. Yet a prominent politician in a recent public address had the insolence to say that the Bigelow roads were going to put to shame the old Roman roads of Europe, which have lasted for so many centuries.

Don't you see what fools they take us to be. Our eyes tell us that the road work is rotten; but the politicians at once prove to us quite differently. Promise breakers not only give us new promises with the utmost assurance, but they band together in a campaign to spread these promises broadcast as the inducement for your voting as they wish.

I have talked with a good many farmers, and am glad that this crowd is campaigning. No more certain method of beating this bond issue until we can reform the State Highway Department could have been devised than the selection of the crowd which is advocating it. Plain words, these, but the occasion is one for plain speaking and straight thinking.—Abe.

ARE GRANGERS SELFISH?

When our Roslyn Grange was in its infancy a certain man became a member. He attended only a few times and finally dropped out. Of course, he was free to withdraw, but his charge to

outsiders against the grange was: "The selfishness of the organization is a body disgusted him." When this was repeated to me it set me to thinking. Have we been or are we selfish?

I am sure the true answer is the negative, but it is so easy to become self-engrossed and selfish that it behooves us to keep a good watch on our actions. Granges have been organized to uplift the farmer, the farmer's family and, therefore, the community. Rural improvement is one of its main objects. Is it not supposed that individuals other than Patrons of Husbandry should enjoy the fruits of their work? Let us see how this works out in records of granges.

Now, our neighborhood organization has been the means of securing a hand some school house, getting several miles of "good road," prevailing on the proper authorities to buy a lot adjoining the school lot for athletic grounds for the youth of the community, and many other notable accomplishments. It is not necessary to list all achievements of this body and detail all its plans. I wish merely to state that the things that are actually accomplished do not benefit the grangers only, but the community at large.

An incident occurring here this spring is not uncommon. A neighbor lay ill and suffering. An operation lay ahead and long weeks before he could work again. His thoughts were of the corn and the lima beans that had never been planted. Nine men went there one day with the necessary implements and horses and accomplished big results and made the man's heart glad. For several weeks these same good friends went at intervals to cultivate the growing things. These workers were grangers, and the sick man was not. Were they elanish or selfish?

Let us help the outside brother as sister who by sickness, death, the ravages of fire or other trouble has been afflicted; let our motives and actions be so honorable, so broad and generous that we will win new friends and new members for our grange bodies.—Elizabeth O. Jean, Baltimore Co., Md.

WILLIAMS GROVE GRANGE PICNIC

The annual grange picnic and encampment at Williams Grove, Cumberland County, to be held August 23 to 30, promises to be bigger and better than ever before. An excellent program has been arranged, and the exhibits of machinery and farm implements will be the largest ever shown. This is one of the big grange events of the year, and is well worth the effort of every farmer to attend. Williams Grove is within a short distance of Harrisburg, on the Cumberland Valley Railroad, and is easily reached.

One of the latest as well as one of the best books on the improvement of rural conditions is "Constructive Rural Sociology," by John M. Gillette, Professor of Sociology in the University of North Dakota. The 18 chapters deal intelligently and instructively with almost every phase of rural community life, and are worthy of study by every person living in or interested in rural neighborhoods and their betterment.

Helpful, constructive work is based on definite knowledge and purpose. Every rural community would be benefited by a Reading Circle conducted during the winter season. Ten or twelve people may join together and very profitably spend a winter evening every week or two in reading and discussing a chapter or two in a book like the one mentioned above, or Butterfield's "Chapters in Rural Progress."

August 23, 1913.

MY, OH MY!

By Franc Remington

When I married Josier, some thirty years back,

My, oh my!
If honest good wishes we'd surely no lack.

My, oh my!
They "hoped we'd be happy," the neighbors said, "the Josier, with all of his virtues, ye know, if the truth must be told, was a leetle bit slow."

My, oh my!
An' I found to my sorrow they told the truth, sure,

My, oh my!
Which is hard for a woman like me to endure,

My, oh my!

Of course he's the very best husband alive;

My, oh my!
An' his death, I am sure, I should never survive—

My, oh my!
But if it should happen that he couldn't stay,

An' if I should live thru it, why—then—I must say

I should look for a man that was jest t'other way.

My, oh my!

LOG CABIN HOMES

It is becoming rather rare in Pennsylvania to find an original pioneer cabin in a fair state of preservation. We found such a cabin in Fulton County on an institute tour last season and secured a photograph, which is



THE PIONEER CABIN ON FULTON COUNTY, PA., FARM.

To be sure, he's jest one of the best-natured men, but I think I could stan' a sharp word now an' then. If he'd git up an' hustle, as some others ken,

My, oh my!

He's late to his breakfast, tho I never shirk

(My, oh my!)
A gittin' it; then he is late to his work;

My, oh my!
He comes to his dinner at jest about two,

An, comes late to supper whatever I do.

herewith reproduced, in company with the present modern buildings on the same farm. In the illustration showing the new buildings will be seen an intermediate house, which stands just back of the new residence, thus making three sets of farm houses.

While the cabin home was not as luxuriant as the present structures, the dwellers in it were doubtless as happy in their way as we who inhabit the modern homes, and it is altogether probable that they found happiness in clearing the land and enjoyed life as well as those of the latter day, who work over fine farms, reaping the benefits of im-



THE EVOLUTION OF THE FARM HOME.

Log cabin in foreground and present buildings on the rise of ground in background

An' he does chores by lanternlight all the year thru,

My, oh my!

His hay it'll stan' till it's dry as a bone.

My, oh my!

An' his harvest begins when the rest is all done.

My, oh my!

The bugs eats his taters while he's "gittin'

To spray 'em," an' half of 'em freeze in the ground,

An' the frost nips his corn-fodder 'fore 'tis cut down.

My, oh my!

proved implements and machinery. The true joy of life lies in earnest, constructive labor; and whether that labor goes to clear the land and hew out a home in the forest, or to the production of crops on large areas of cleared land with the help of modern machinery, it brings with it the joy of accomplishment.

The great primal hope of man is wife, children and a piece of land, and the labor that is given to the realization of this hope brings the sweetest joy of life. Verily "A man's life consisteth not in the abundance of the things that he possesseth."—J. T. Campbell, Crawford Co., Pa.

Pennsylvania Farmer

15-127

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Pennsylvania Farmer, Philadelphia, Pa.

To Save His Life.

By H. R. DURANT.

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Miss Ogden left the settlement, and secured a front seat on the surface car with a sensation of almost exhilarating relief. It was her first summer in the great, treeless city, whose ceaseless roar and restless energy had at first disconcerted her. By degrees she had become accustomed to her chosen work, missing, but not regretting, the absence of all conventional veneer, and finding her principal relaxation in the complex intellectual opportunities which the settlement afforded.

Today, however, the curvating August sun had proved her undoing, and had driven her to bold mutiny. For once she would escape from her settled determination to a life of unwavering constancy in uplifting others, and seek a favorite book and fresher air in pastures new.

It was for this that she now rode triumphantly up-town, unmindful of the oven-like streets, from which the blistering heat radiated in quivering rays.

After all, she thought, the prospect of an afternoon of undisturbed recreation among Morgan's splendid books was in itself tempting enough, without the additional spur of such insufferable weather. It was good of him to offer his library for settlement purposes during his absence, altho his insistence that she treat it as her own was slightly annoying. There were books of her own in plenty; but, she argued complacently, it was so much easier to visit Morgan's house, which his model housekeeper kept continually glistening like a new pin, always ready for the owner's return, than to bother with opening her own home, which remained closed during the summer season.

What a strange world it was, after all, she reflected. How far apart they had drifted, especially considering the careful arrangements made by both families, everything having been pleasantly anticipated as a matter of course. Her own people were abroad for a year, and Morgan—well, he was in Timbuctoo, or somewhere.

Morgan Bruce—she lingered over the name—the last of his line. This thought always struck her as being pathetic, and yet, apparently, it had never occurred to him. What a real companion Morgan had been! She recalled her first doll—it was from him; the constant attention and unwavering adoration of his callow youth; his loyal and unswerving pursuit thru her world of dancing-parties, drawing-rooms, yacht-decks, and hunting-fields.

With the passing years had come no change in his steadfast attitude, albeit she saw less of him. He was frank in expressing a desire for life, simply for the good times in it, and remained serenely unruffled when she took him to task for his purposeless existence. She wondered that he could really find nothing more momentous to claim his attention than the breeding of ponies. All problems sat lightly upon him, and his serious moments were so few that his rare intervals of intensity became alluring. Verily, there seemed to be perpetual summer in his soul; and now—she missed it.

How openly amused he had been when she told him of her determination to take up settlement work! When she had defended her decision he had waved her explanation aside in a maddening fashion. Why should he think she was so irresolute and changeable, of varying inclinations, touching tentatively many fads that usually just

fell short of being permanent. Even now she tingled a little when she thought of the way he had viewed her vagaries, with a superior, ill-suppressed toleration.

Indeed, his final declaration that she was an "elegant, self-contained girl, very carefully reared," but one who "took herself rather heavily," reduced her, on that occasion, to a state which might have been truthfully compared with that of the fretful porcupine. Notwithstanding her knowledge of his bantering ways, underneath which she detected a vague current of keen seriousness, there were times when she bristled at the bare recollection of his almost boyish teasing.

That he would ever fail to be her devoted shadow seemed incomprehensible; that the time would ever come when his peculiar adeptness in paying her the little attentions, which meant so much to her, doing all with such absolute correctness and fascinating charm; that his polished finish, his subtle sense of responsibility, his intuitive, almost uncanny, anticipation of her wants—would be for some one other than herself seemed as remote a possibility as the millennium. Yet the time had come.

It was with a feeling of regret which was very near to bitterness that she realized the situation, and withal she was forced to acknowledge that it had been mostly of her own deliberate choosing. Her efforts to induce him to make the most of himself were, she believed, merely for his own salvation; and yet, how easily he had brushed aside her earnest arguments!

Even now, the memory of their last talk stung a trifle. She had reproached him for his deadness to his manifest duty, for his indifference to doing a man's work in the world. Anything was better for him than driving a racing-car or benching a kennel of Air-dale terriers—seemingly his latest principal occupations.

He had insisted that he had been born and bred to a life of idleness; that his heritage was an insatiable craving for outdoor life; that the world was a playground and not a workshop; and that he who lived contentedly lived best and most completely. Then he had smiled his pleasant, winning smile, which always disarmed her, even as it habitually left her helplessly furious.

Her pulse quickened as she mounted the broad, granite-front steps; for, after all, this was deliberately ignoring the inexorable social laws of her conventional world. While she awaited the answer to her ring, her eyes wandered across the avenue to the park beyond, where smart equipages and motor cars were rolling by in an endless stream.

To the left, children were sailing boats on the lake; nearby, smaller tots searched the parched turf for flowers, looking in vain for fragrant blossoms in grass which had been blasted and withered these many days. Altogether, it was a pleasant, peaceful prospect—and a pleasanter, more harmonious perspective—over which her eyes lingered. Yet, somehow, a sensation of lurking oppression, of impending shadow—intangible and nameless, but present and ominous—swept over her in a suffocating wave.

"How do you do, Mrs. Jenkins?" she said to the prim, ornamental housekeeper framed in the doorway, meanwhile subconsciously wondering at her own breathlessness. When she turned

in the wide hall, she noticed the housekeeper's careworn, pitiful expression. "You need a bit of country air, Mrs. Jenkins," she said kindly.

"Indeed, I should appreciate it, Miss Ogden," faltered the housekeeper; "but I wouldn't mind the heat or nothing else had on this earth if Mr. Bruce would only get well. We're awful scared about him. As soon as he's better, I'll tell him you called. He'll be pleased to know you came."

Miss Ogden's amazed, incredulous expression escaped her.

"I—I was not aware—I did not know that Mr. Bruce was—at least, that he was so—seriously ill," stammered the girl, seeking hard to hide her sudden confusion.

"Oh, yes! Why, for several days the end has been expected at any moment. Dr. Curtiss says that, without the nurse, Miss Brewster, he never could have lived as long as this. She's a wonderful person—simply wonderful. Perhaps it's wrong to tell you this, Miss Ogden," continued the other, as she noticed that a quick pallor had blanched the girl's cheeks; "but you are one of his oldest and dearest friends, and it seems right you should know the truth."

"Yes, Mrs. Jenkins, I thank you for telling me. I—I think I ought to know the exact situation. May I speak with the nurse—Miss Brewster, I think you said the name was?"

"I presume she will see you for a moment and leave Mr. Bruce in charge of one of the other nurses, but she prefers to watch him every instant herself. I don't believe she has slept any during the past week. I never saw such devotion. Will you wait for Miss Brewster in the library?"

Once in the cool, book-lined room, the startling, rushing unreality of it all overwhelmed her, and left her visibly shaken.

"Morgan will die!" she found herself repeating with weird positiveness. She sank into a chair, and pressed both hands to her throbbing temples. Her eyelids closed, and simultaneously with her shut-in vision came a dense, sinking sensation—as if she were falling into a deep, black hole—spreading over her a mantle of lethargy. With an effort she roused herself and threw off the stifling benumbed feeling.

She arose and moved toward the window with halting feet, her brain reeling. Her bedimmed gaze traveled to the rim of foliage in the spreading park which lay before her, but she looked with eyes which saw not. Again and again the crushing realization returned, alternately leaving her with senses swimming or appalling her with its glaring vividness. Returning to the table, she picked up a magazine, ran over the leaves, and allowed it to fall unnoticed to the floor. Bending forward, she stared fixedly at a girl's picture in an oval frame which rested on the library table. It was her own likeness.

Mechanically, she drew off her gloves and, leaning over, arranged the different table articles in neat order. Carefully she flicked away an imaginary speck of dust; then paused uncertainly as a tear splashed on the polished surface. The next moment she had removed her hat, smoothed back the hair from her pale brow with a quiet gesture of cool decision, and calmly seated herself, with her dark eyes fastened upon the distant doorway.

She arose as a white-aproned figure appeared in the doorway and glided silently toward her. Miss Ogden hesitated before speaking. She had not been prepared for this tall, decidedly beautiful girl who was now surveying her with well-bred ease; whose fair face and large brown eyes, crowned with a mass of wavy hair shaded like

a frostbitten autumn leaf made a most attractive appearance.

"I am Miss Brewster. Mrs. Jenkins said you would like to see me," she began, in a low voice.

"Thank you for coming. I am Miss Ogden—a very old friend—and only a moment since did I learn of Mr. Bruce's illness. Really, I—I am horribly worried about him!"

Her lips trembled, and she moved forward with a pretty gesture of half entreaty.

"Please tell me all! I had no idea he was at home. I supposed he was away from town. Believe me when I say—I have the—the greatest possible interest in learning the very worst. Why, I—I don't even know what his illness is!"

Her attitude was pathetic in its unexpected helplessness. She awaited the other's words with breathless expectancy.

"Mr. Bruce has typhoid fever, and has been critically ill for a week," replied the nurse, her voice seeming instinctively to assume a tone of professional moderation.

"Typhoid!" exclaimed Miss Ogden involuntarily, with a gasp of alarm. "I—I don't see how he could have contracted—"

"He has been working too hard," broke in the nurse, with an apologetic nod of her head for the interruption. "He was in a perfect condition for typhoid to grasp him."

"Working too hard, did you say? I—I don't think I understand!" A look of surprise glimmered in the nurse's eyes and went out, but her face remained impassive.

"I mean his charities," she explained. "Of course, you know that Mr. Bruce was the anonymous donor of the Children's Hospital," she continued easily, altho her gaze studied the face of the other with a searching, compelling intentness. "And that he likewise gave and maintains that splendid institution at Sea View—the home for Incurable Children!"

Miss Ogden had lowered her head for a moment; when she looked up, a deep red had stung her cheeks hotly. She placed one hand to her throat; her color seemed tight.

"I—I must confess that this is all very pleasant news to me," she replied, and her voice seemed strained and far away.

"I understand that he was averse to having his benefactions made public; but, of course, that sort of thing was bound to become known among physicians and nurses. For two years he has been the executive head of both institutions, and it has been his close and constant application to their business administration, even to the minutest detail, which has not only made them successful, but has resulted in sadly wearing him out, mentally and physically, leaving him an easy prey to typhoid."

Miss Ogden arose abruptly. Her face had grown colorless.

"He must get well," she said. "I shall stay until he recovers." Her voice was quiet, yet it rang with settled determination. Across the nurse's face flashed an expression of relief.

"Oh, surely," she pleaded, reaching forward and clasping the nurse's hand almost convulsively. "There must be some little thing I may do to help! Tell me there is, please."

"I think your presence will ease his mind. He is often delirious, and asks for you constantly."

"For me?"

"Yes. Your name is Barbara, is it not?"

Miss Ogden nodded her head affirmatively, and then stood as one transfixed. In the ghastly hush of the quiet room, it seemed as tho the nurse must

hear the rapid beating of her heart. Her bosom rose and fell tumultuously; her eyes suddenly swam in tears. A great light had broken in upon her, laying bare the husks of her lost years and disclosing the innermost cravings of her soul. It was the final shattering of all illusions.

"Take me—to him!" she said brokenly.

She stood beside his bed in awed silence, and watched for an instant as the seething, burning fever-waves continually flooded him, scorching him like molten metal. She found herself wondering whether his eyes would ever open again, and what was that cumbersome, heavy-looking coil on his head. From a far corner, a rotary electric fan sent a cool breeze circling around the room; the almost indistinct hum of the machine was the infernal buzzing of a million bees in her aching brain. It was with a start that she saw his eyes open.

"Barbara!" he murmured weakly. She bent over and gently took one burning hand.

"Hush!" she said. "I am going to see that you get well and strong again. I shall never leave until you do."

"Never!" he questioned feebly.

"Never," she answered, without hesitation. Her eyes were steadfast. His fleeting gaze sought the nurse.

"Miss Ogden is to do me the very great honor of becoming my wife," he almost whispered, trying hard to smile.

"Is it not so, Barbara?"

She felt the quick pressure of the nurse's hand on her arm.

"Yes, Morgan—if you wish it," she answered simply.

An hour later the clergyman had come and gone. In spite of the dazzling unreality of it all, her turbulent mind was now at peace, and her bosom thrilled with a thankfulness akin to ecstasy. Again the yellow band on her finger—the symbol of her wifehood—caught her eye, and instantly her heart overthrew with an almost divine tenderness and compassion for the stricken man.

"Dear girl," he had breathed, "you have been the only one. In the years to come there will be no other." And then he had fallen asleep. She moved irresistibly and with noiseless step to where he lay still—so very still!—and sank to her knees.

"Oh, God!" she prayed fervently. "Not this man! Take all the world, but—leave me him!"

Then came a racking period of interminable days and endless nights, during which flashing events crowded each other in bewildering array and ditted by on wings of light. She lived in a daze, hardly realizing and yet vaguely cognizant of the daily consultation of the physicians; the hushed, deadly stillness of the house; the quiet man so torn with suffering, whose wan smile came regularly in fleeting intervals of consciousness.

Thru it all the vicious, venomous fever—always the fever—seared him with diabolical persistence, consuming him with ceaseless, unquenchable fire. And raging high until it seemed as tho it must burst the frail human shell. But the fever had an antagonist who fought as one inspired, who was resourceful and equal to every advance, who battled with untiring energy and undying vigilance.

It was the nurse who saw that the ice-cream and iced baths were never an instant late; that his nourishment of milk, and the stimulant, were given by her own hand exactly on the second. Once, when delirium seized him, her cool hand rested like a north wind on his pulsating forehead; her slim fingers separated his curls in lingering, careless movements, quieting him immediately.

When the fever blazed with increasing force, she grappled with it in unfatigued zeal and drove it back, and back again—until it passed, partially spent; and she, too, halted in exhaustion, trembling like a wind-shaken leaf. It was always a sleeping volcano, burning unceasingly, breaking out intermittently in a glare of shriveling heat and carrying the sufferer down to the very brink, where her unfailing hand checked him from falling and her sublime courage held him safe.

Then there came a time when she sought his pulse. The face which dropped to his breast and listened for heartbeats, which came not, was like marble. Her eyes were terror-stricken, and the voice which spoke shook with an agony untold; but a steady hand drove the hypodermic needle with its life-saving strychnine and—he breathed again.

For many days he remained thus with them—barely remained—unaware of the stupendous, heartrending thing which every instant they were making for his life. Then, one evening when their continual contest had become a weary, monotonous thing and their ministrations had grown mechanically automatic, the terrible fever, baffled and repulsed at every turn, slowly receded and left him with a temperature almost normal.

It was the nurse who caught the sudden change; who saw the rational glimmer in his glance; who bent low to hear him whisper: "I shall get well."

His wife came, thrilling in every fiber of her being, and looked down upon him. The unspeakable joy in her heart was mirrored in her tear-dimmed eyes.

"Not too long," cautioned the nurse, as she busied herself among the bottles on the small medicine-table; but her eyes remained riveted on the sick man's face.

"Barbara!" he said, and a glad smile illuminated his countenance.

"Good old girl!"

"You see, I was right," she said, with a happy catch in her voice.

"When I said I should stay until you recovered."

Her lips were tremulous, and impulsively she took one of his hands between her own. In her growing enchantment, and the strange, new embarrassment which had mantled her face with a crimson glow, she lost the quick, puzzled expression which flickered in his eyes and disappeared.

"There, now," she continued, "you must sleep and grow strong."

Hesitating ever so slightly, she bent down and pressed her moist lips to his in clinging abandon; then turned and left him, moving gracefully but hurriedly, and with cheeks aflame.

It was a day later when next she saw him. She came to him after a brisk walk in the park, where the late September wind, all frost-laden, was putting golden crowns on the white birches. The tingling breeze had dyed her fair skin to a rosy hue and whipped her tawny hair about in charming, riotous confusion.

She stood before him strong in her vigorous health and attractive vitality. Her perfect figure seemingly molded into her smart blue gown, with an alluring lissiteness in every movement. He watched her as she removed her hat and imperiously jabbed the pins thru the crown; noted the exquisite coloring of the face, the ripe luxuriance of her being, the apparently natural home-coming; and again that queer, puzzled expression flickered in his eyes, flickered again and went out behind lowered lids.

"Tired, dear?" she asked tenderly.

"Not very," he answered, smiling

up at her—the same winning smile. "Awfully good of you to come every day. Helps me wonderfully, just to see you." She paused with one glove half drawn, and deep within the hidden recesses of her eyes rose a shadow of doubt.

"Then just think what a great help I shall be to you, seeing you every day and—every night, too," she said, with easy confidence; yet her eyes sought his with a half-frightened, imperative gaze.

"Be careful," he warned, still smiling. "You know, Dame Grundy is a very jealous old lady. You cannot afford to ignore a single polite convention."

Her head lowered for a closer scrutiny of her glove. When she looked up, her face had grown colorless.

"I think Miss Brewster has a message for me," she said finally in a metallic monotone. "I'll—I'll go to her." She found the nurse in his library.

"He does not know! He does not know!" she repeated thru white lips, in a voice strangely like a moan, and with the benumbed agony of her soul tragically reflected in her unseeing eyes. Several moments passed before she realized that the nurse had not spoken. Then she looked at her, looked again, and drew back—startled.

"Oh!" she whispered. "Oh—you knew! All the time, you knew—that he was delirious when I became—his wife!"

In vain she awaited a reply.

"Oh! How could you do it!" she entreated. "What made you? It was wrong, cruelly wrong in you?"

"It saved his life—even tho he was delirious," answered the nurse quietly.

"Yes, I know! I know, but—it was unfair to me. Oh, can't you see? Must I explain my abject humiliation—can't you appreciate my dreadful position?"

"He is worthy of you."

"Oh, it isn't that! It isn't that! Surely you know what he is to me, but—what shall I do?"

"Perhaps it will all come back to him; he is not strong. I am sure he—worships you."

"Ah—how shall I know—and when?" she asked, with a pathetic, forlorn gesture. Then, as the tears came to her eyes, "do you really think so?"

An hour later she was irresistibly drawn to the door of the sick-room, and she saw that he was alone. Tip-toeing noiselessly to the bed, she stood and watched his gentle, regular breathing. There were bluish hollows under the closed eyes, and the marble pallor and drawn features which come to a man who has struggled with disease; yet, in repose, there was an indefinable attractiveness, an unconscious charm in his face which held her enthralled.

After all, no matter how it had come about, she belonged to her—for all time to come. She bent swiftly, with shy tenderness in her dark eyes; her lips brushed his hair in a delicate, fugitive caress. Carefully she tucked in the silken cover and moved away, only to halt with a dull shock of surprise when he called to her.

"Barbara," he said, "I'm lonely. Can you stay a moment?" Hastily concealing the ring by wrapping her handkerchief around it, she turned to him.

"Sit here—on the bed beside me," he ordered, with mock arrogance. As she did so, he added: "And tell me how long I am to be fed like a baby, and when I may forego this bird diet for something substantial. I am famished—literally starved."

"Oh, in a few days," she answered cheerily, avoiding his eyes. "Now, be a good boy, and don't get rebel-

lious." A suspicious mist had gathered beneath his dark lashes. His restless hand found and held her smooth, slim fingers.

"You are the best—the most faithful—friend, Barbara, a man ever had," he said huskily. She did not answer, but sat with averted gaze, her hand abandoned to him. He wondered at her attitude of indifferent expectancy.

"Ah, I've had such glorious dreams in my illness," he continued, and his face was illumined with a rare smile at the remembrance. "Such beautiful, impossible dreams—that life's cold reality seems a repugnant awakening."

"What kind of dreams?" she asked. There was a hysterical, rising inflection in her question; her eyes were luminous.

"They were all the same—all the same"—he murmured absent-mindedly; "and for years I have had the same day-dreams."

"Did they—make you happy?"

"Happy?" he echoed. "Happy is too poor a word. Why, have you been hurt?" holding up the bound finger.

"Nothing serious, I hope?"

"I—I don't know. That is, it feels better than it did."

"I am glad of that. Let me see the injury."

"Oh, no! Please—please do not!" she begged, as he tried with gentle insistence to loosen the gossamer bandage.

"You know, it is very dangerous to cross me in anything," he said; "and so, if you struggle, I shall probably have a relapse. There, that is better!" he approved, as her hand lay passive. He proceeded leisurely to unwind the linen.

The handkerchief slipped from its fastening, and, in glistening radiance the plain gold band came into view. He gave the yellow shining circle one brief stare, and his glance met hers.

For the last time, that puzzled look flickered in his eyes; then, as she bent toward him with plant grace, with a world of pride and humility in her gesture, it went out forever. Still half dazed, in awe of her new sacredness, he held out his hands.

"Then—it was real, dearest one!" he said. "It was not a dream!"

They were unaware that the nurse had opened and closed the door after a look within, and was now standing as one stunned in the darkened hall. She swung the front door wide, letting in the cool air, with its faint, fragrant message from the autumn woods. She drank the rushing breeze as one stifled; her hands reached for her throat, as tho to brush aside the spasm contracting there. In her eyes was the never-ending pain of the tortured martyr.

Away in the west, the slanting rays of the late afternoon sun shot athwart the park, filtered thru the rustling maples, gilding their cardinal and amber foliage, and wandered across the threshold to her weary feet. The soft, gracious beams stole along the costume of spotless white until it emblazoned her diadem of bronze-red hair, spreading over the silent, drooping figure a hallowed, celestial light—the divine splendor of a benediction.

One hand went to her bosom, and she barely breathed.

"Oh! Oh, my heart—my heart!"

"Here I am," said the returned wanderer, "back with the fortune I said I would make, and ready to pay the mortgage off on the farm!"

"Ef that ain't hard luck!" exclaimed the father. "As times are goin' now that mortgage ain't botherin' nobody. I'd a heap ruther have seen you broke an' ready to do regular work for wages."

Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Aug. 18, 1913.
Solid packed creamery butter receipts light, but values were steadily maintained. Prints were steadily held but quiet. Fine new-laid egg receipts light and market ruled firm. Much of supply was of rather unattractive stock. In dressed poultry there was little trading and prices favored buyers. Live poultry market was quiet, with decline of 1¢, and moderate but ample offerings. Moderate offerings of desirable fruit. Values maintained but quiet. Fair trade on vegetable market.
Butter—Western creamery, 30½¢; extras, 28½¢; firsts to seconds, 24½¢ to 26½¢; special prints, 55¢ to 58¢; nearly prints, 22¢.
Cheese—New York full cream, 15½¢; do. fair to good, 14½¢ to 15½¢.
Eggs—Candled, 32¢ to 35¢ per case.
Poultry—Fowls, 16½¢ to 17¢; old roosters, 12¢ to 13¢; pigeons, old, 23¢ to 25¢; young, 18¢ to 20¢.
Dressed poultry—Western fowls, 18½¢; roosters, 14¢; chickens, 22¢ to 24¢; squabs, 28¢ to 30¢.
Vegetables—White potatoes, new, 40¢ to 45¢ basket. Onions, 65¢ to 75¢ basket. Peppers, 10¢ basket. Radishes, 50¢ to 60¢ basket. Egg plant, 25¢ to 35¢ basket. Cabbage, 30¢ to 40¢ basket. Lettuce, \$1.50 to \$1.75 hamper. Beans, 15¢ to 20¢ bushel. Corn, 12¢ to 14¢ bushel. Sweet potatoes, \$3.00 to \$3.50 bushel. Jersey, \$1.50 to \$2.00 bushel. String beans, 15¢ to 20¢ bushel. Peas, 15¢ to 20¢ bushel. Tomatoes, 10¢ to 15¢ basket. Corn, 25¢ to 30¢ basket. Squash, 10¢ to 15¢ basket. Cucumbers, 25¢ to 30¢ basket. Lima beans, 35¢ to 40¢ bushel.
Fruit—Apples, southern, new, 50¢ to \$1.50 hamper. Huckleberries, 10¢ to 12¢ qt. Gooseberries, 30¢ to 40¢ basket. Peaches, \$1.00 to \$1.50 carrier. Pineapples, per crate, \$1.00 to \$2.50. Grapes, 50¢ to 60¢ per crate. Cantaloupes, Maryland, 50¢ to \$1.00 crate. Peas, 40¢ carrier. Apples, 75¢ to \$1.00 basket.
Hay and Grain—No. 1 timothy, old, \$14.00 to \$15.00; No. 2, \$13.00 to \$14.00; No. 3, do. \$12.00 to \$14.00. No. 4, do. \$11.00 to \$12.00. No. 5, do. \$10.00 to \$11.00. No. 6, do. \$9.00 to \$10.00. No. 7, do. \$8.00 to \$9.00. No. 8, do. \$7.00 to \$8.00. No. 9, do. \$6.00 to \$7.00. No. 10, do. \$5.00 to \$6.00. No. 11, do. \$4.00 to \$5.00. No. 12, do. \$3.00 to \$4.00. No. 13, do. \$2.00 to \$3.00. No. 14, do. \$1.00 to \$2.00. No. 15, do. \$0.50 to \$1.00. No. 16, do. \$0.25 to \$0.50. No. 17, do. \$0.10 to \$0.25. No. 18, do. \$0.05 to \$0.10. No. 19, do. \$0.02 to \$0.05. No. 20, do. \$0.01 to \$0.02.

NEW YORK PRODUCE

New York City, Aug. 18, 1913.
The butter market showed rather poor quality of receipts. Secondary grades show no improvement in price. Good prices obtained on better grades. The call for fine fresh eggs is beyond available supply, and poorer grades are bringing lower and irregular prices.
Butter—Creamery, firsts to extras, 26½¢ to 28½¢; seconds, 23½¢ to 25½¢; factory, 20½¢ to 24½¢; state dairy, 23½¢ to 27½¢; packing stock, 19½¢ to 22½¢; process, 22½¢ to 25¢.
Cheese—Whole milk, specials, 15¢; do. common to fancy, 12½¢ to 14½¢; skim, 50¢ to 105¢.
Eggs—State and near-by, 23¢ to 35¢; fresh gathered, 14¢ to 20¢; mixed, 20¢ to 30¢.
Dressed poultry—Turkey, dry, 19¢ to 27¢; chickens, 17¢ to 25¢; fowls, 15¢ to 19½¢; old roosters, 12½¢; ducks, 10¢.
Live poultry—Prices uncertain.
Grain—Firm. Wheat, No. 2 red, 94½¢; No. 1 Northern, 94½¢; corn, export, 84½¢; oats, standard white, 48¢ to 49½¢.
Vegetables—Cabbage, 75¢ to \$1.25 bushel. Green beans, 20¢ to 25¢ basket. Carrots, 70¢ to 75¢ basket. Cucumbers, 35¢ to 40¢ basket. Lettuce, 50¢ to \$1.00 basket. Squash, 15¢ to 20¢ basket. Peas, 50¢ to \$1.25 basket. Celery, 10¢ to 25¢ per stalk. Onions, 75¢ to \$1.50 basket. Tomatoes, 30¢ to \$1.25 per box. Peppers, 25¢ to 50¢ basket. Beans, \$1.00 to \$1.50 bushel. Potatoes, 50¢ to \$2.25 bushel. Sweet potatoes, \$1.00 to \$4.00 bushel. Egg plants, 25¢ to 40¢ basket. Lima beans, 25¢ to 75¢ basket.
Fruit—Apples, new, \$1.00 to \$1.75 4-bbl. basket. Peaches, \$1.00 to \$2.00 carrier. Blackberries, 30¢ to 40¢ qt. Raspberries, 60¢ to 1¢ qt. Huckleberries, 50¢ to 1¢ qt. Currants, 8¢ to 12¢ qt. Muskmelons, 75¢ to \$1.25 per standard crate.

BALTIMORE PRODUCE

Baltimore, Md., Aug. 18, 1913.
Flour continued quiet in the wholesale market. Wheat, closed firm. Corn in good demand, with prices firm. Hay quiet. Butter steady. Eggs firm. Fruits and vegetables in good movement at steady prices. Poultry steady.
Butter—Creamery, fancy, 28½¢ to 29½¢; do. choice, 27½¢ to 28½¢; prints, 24½¢ to 26½¢; 26¢ to 28¢; Maryland and Penna. rolls, 21¢ to 22¢. Process, 24¢ to 26¢.
Eggs—Near-by, firsts, 23¢; western, 22¢; old roosters, 10¢. Ducks, 12¢ to 14¢.
Vegetables—Potatoes, new, \$1.50 to \$2.25 bushel. Cabbage, \$1.50 to \$2.00 crate. Onions, 75¢ to \$1.00 basket. Lettuce, 20¢ to 40¢ per box. Peppers, \$1.00 to \$2.00 basket. Squash, 15¢ to 20¢ basket.

Pennsylvania Farmer

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basket. Cucumbers, 15¢ to 20¢ basket. Beans, green, 50¢ to 60¢ bu. Beets, 2¢ to 3¢ bunch. Green corn, 5¢ to 8¢ doz. Sweet potatoes, \$2.50 to \$3.50 bushel. Tomatoes, 15¢ to 25¢ bu. Lima beans, hulled, 8¢ to 10¢ lb. Egg plant, 30¢ to 50¢ basket.
Fruit—Apples, new, 75¢ to \$1.50 bushel. Peaches, 30¢ to 75¢ basket. Pineapples, \$2.00 to \$2.25 crate. Cantaloupes, 50¢ to 75¢ crate. Plums, \$1.50 to \$2.00 crate. Huckleberries, 10¢ to 12¢ qt. Grapes, Virginia, 12¢ to 14¢ basket. Peas, 40¢ to 50¢ bushel.
Grain—Wheat, No. 2 red western, 94½¢; spot, 92½¢. Corn, fresh shelled new, 83¢ to 84½¢. Oats, No. 3 white, new, 45¢ to 46½¢; standard white, 46¢ to 47½¢; No. 3 white, 46¢ to 47½¢. Rye, 62¢ to 72¢.
Hay and Straw—No. 1 timothy, \$17.50 to \$18.00; No. 2 timothy, \$16.50; No. 3 do., \$15.00 to \$16.00; No. 4 clover, \$14.00 to \$15.00; No. 2 do., \$10.00 to \$11.00; No. 1 tangle red straw, \$11.00 to \$12.00; No. 1 oat straw, \$8.00 to \$10.00; No. 1 wheat straw, \$7.50 to \$8.00; Milfeed—Spring bran, \$24.00 to \$24.50; Middlings, floor to white, \$26.00 to \$26.50; western middlings, \$25.00 to \$25.50; city mills, \$24.50 to \$25.00.

WASHINGTON PRODUCE

Washington, D. C., Aug. 18, 1913.
Live stock market quiet. Eggs scarce and continued light receipts have sent the figures up to 25¢ for fresh-laid eggs. Onions, 65¢ to 75¢ basket. Peppers, 10¢ basket. Radishes, 50¢ to 60¢ basket. Egg plant, 25¢ to 35¢ basket. Cabbage, 30¢ to 40¢ basket. Lettuce, \$1.50 to \$1.75 hamper. Beans, 15¢ to 20¢ bushel. Corn, 12¢ to 14¢ bushel. Sweet potatoes, \$3.00 to \$3.50 bushel. Jersey, \$1.50 to \$2.00 bushel. String beans, 15¢ to 20¢ bushel. Peas, 15¢ to 20¢ bushel. Tomatoes, 10¢ to 15¢ basket. Corn, 25¢ to 30¢ basket. Squash, 10¢ to 15¢ basket. Cucumbers, 25¢ to 30¢ basket. Lima beans, 35¢ to 40¢ bushel.
Fruit—Apples, southern, new, 50¢ to \$1.50 hamper. Huckleberries, 10¢ to 12¢ qt. Gooseberries, 30¢ to 40¢ basket. Peaches, \$1.00 to \$1.50 carrier. Pineapples, per crate, \$1.00 to \$2.50. Grapes, 50¢ to 60¢ per crate. Cantaloupes, Maryland, 50¢ to \$1.00 crate. Peas, 40¢ carrier. Apples, 75¢ to \$1.00 basket.
Hay and Grain—No. 1 timothy, old, \$14.00 to \$15.00; No. 2, \$13.00 to \$14.00; No. 3, do. \$12.00 to \$14.00. No. 4, do. \$11.00 to \$12.00. No. 5, do. \$10.00 to \$11.00. No. 6, do. \$9.00 to \$10.00. No. 7, do. \$8.00 to \$9.00. No. 8, do. \$7.00 to \$8.00. No. 9, do. \$6.00 to \$7.00. No. 10, do. \$5.00 to \$6.00. No. 11, do. \$4.00 to \$5.00. No. 12, do. \$3.00 to \$4.00. No. 13, do. \$2.00 to \$3.00. No. 14, do. \$1.00 to \$2.00. No. 15, do. \$0.50 to \$1.00. No. 16, do. \$0.25 to \$0.50. No. 17, do. \$0.10 to \$0.25. No. 18, do. \$0.05 to \$0.10. No. 19, do. \$0.02 to \$0.05. No. 20, do. \$0.01 to \$0.02.

YORK PRODUCE MARKET

York, Pa., Aug. 18, 1913.
The markets were unusually crowded the past week and the buying was brisk. Tomatoes, apples, peaches, plums, cucumbers, eggplants, and butter are all so scarce that buyers do not question long but buy as offered.
Eggs—24¢ to 27¢ doz.
Butter—Country, 28¢ to 35¢; separator, 33¢ to 35¢. Milk, 3¢ per gal. 10¢; springers, 16¢ to 18¢ lb. Dressed poultry, 50¢ to 90¢ each. Vegetables—Potatoes, new, 40¢ to 45¢ basket. Peas, 15¢ to 20¢ bushel. Corn, 12¢ to 14¢ bushel. Sweet potatoes, \$3.00 to \$3.50 bushel. Jersey, \$1.50 to \$2.00 bushel. String beans, 15¢ to 20¢ bushel. Peas, 15¢ to 20¢ bushel. Tomatoes, 10¢ to 15¢ basket. Corn, 25¢ to 30¢ basket. Squash, 10¢ to 15¢ basket. Cucumbers, 25¢ to 30¢ basket. Lima beans, 35¢ to 40¢ bushel.
Fruit—Apples, 75¢ to \$1.00 basket. Peaches, \$1.00 to \$1.50 carrier. Pineapples, per crate, \$1.00 to \$2.50. Grapes, 50¢ to 60¢ per crate. Cantaloupes, Maryland, 50¢ to \$1.00 crate. Peas, 40¢ carrier. Apples, 75¢ to \$1.00 basket.
Hay and Grain—No. 1 timothy, old, \$14.00 to \$15.00; No. 2, \$13.00 to \$14.00; No. 3, do. \$12.00 to \$14.00. No. 4, do. \$11.00 to \$12.00. No. 5, do. \$10.00 to \$11.00. No. 6, do. \$9.00 to \$10.00. No. 7, do. \$8.00 to \$9.00. No. 8, do. \$7.00 to \$8.00. No. 9, do. \$6.00 to \$7.00. No. 10, do. \$5.00 to \$6.00. No. 11, do. \$4.00 to \$5.00. No. 12, do. \$3.00 to \$4.00. No. 13, do. \$2.00 to \$3.00. No. 14, do. \$1.00 to \$2.00. No. 15, do. \$0.50 to \$1.00. No. 16, do. \$0.25 to \$0.50. No. 17, do. \$0.10 to \$0.25. No. 18, do. \$0.05 to \$0.10. No. 19, do. \$0.02 to \$0.05. No. 20, do. \$0.01 to \$0.02.

WILMINGTON PRODUCE

Wilmington, Del., Aug. 18, 1913.
There has been little change in prices in the local market except on tomatoes, which have declined somewhat, owing to abundant supply. Peaches are now the feature of the market, selling at from 50 cents to \$1.25 per bushel.
Butter—Print butter, 38¢ to 45¢ lb. Creamery roll, 30¢ to 35¢.
Poultry—Chickens, dressed, 18¢ to 20¢; broilers, 22¢ to 25¢; ducks, 16¢ to 22¢ lb.
Eggs—27¢ doz.
Vegetables—Potatoes, new, 40¢ to 45¢ basket. Peas, 15¢ to 20¢ bushel. Corn, 12¢ to 14¢ bushel. Sweet potatoes, \$3.00 to \$3.50 bushel. Jersey, \$1.50 to \$2.00 bushel. String beans, 15¢ to 20¢ bushel. Peas, 15¢ to 20¢ bushel. Tomatoes, 10¢ to 15¢ basket. Corn, 25¢ to 30¢ basket. Squash, 10¢ to 15¢ basket. Cucumbers, 25¢ to 30¢ basket. Lima beans, 35¢ to 40¢ bushel.
Fruit—Apples, 75¢ to \$1.00 basket. Peaches, \$1.00 to \$1.50 carrier. Pineapples, per crate, \$1.00 to \$2.50. Grapes, 50¢ to 60¢ per crate. Cantaloupes, Maryland, 50¢ to \$1.00 crate. Peas, 40¢ carrier. Apples, 75¢ to \$1.00 basket.
Hay and Grain—No. 1 timothy, old, \$14.00 to \$15.00; No. 2, \$13.00 to \$14.00; No. 3, do. \$12.00 to \$14.00. No. 4, do. \$11.00 to \$12.00. No. 5, do. \$10.00 to \$11.00. No. 6, do. \$9.00 to \$10.00. No. 7, do. \$8.00 to \$9.00. No. 8, do. \$7.00 to \$8.00. No. 9, do. \$6.00 to \$7.00. No. 10, do. \$5.00 to \$6.00. No. 11, do. \$4.00 to \$5.00. No. 12, do. \$3.00 to \$4.00. No. 13, do. \$2.00 to \$3.00. No. 14, do. \$1.00 to \$2.00. No. 15, do. \$0.50 to \$1.00. No. 16, do. \$0.25 to \$0.50. No. 17, do. \$0.10 to \$0.25. No. 18, do. \$0.05 to \$0.10. No. 19, do. \$0.02 to \$0.05. No. 20, do. \$0.01 to \$0.02.

BUFFALO PRODUCE

Buffalo, N. Y., Aug. 18, 1913.
Butter—Creamery, choice, 28¢; choice dairy, 25¢ to 26¢.
Cheese—Steady, fancy, 15¢ to 15½¢; good, 14¢ to 14½¢.
Eggs—Firm. State, fresh, 27¢ to 28¢; western, 22¢ to 23¢; state, candled, 22¢ to 23¢.
Live poultry—Steady. Fowls, 17¢ to 18¢; broilers, 18¢ to 20¢; ducks, 13¢ to 17¢; turkeys, 15¢ to 17¢; old roosters, 12¢ to 13¢.
Dressed poultry—Fowls, 16¢ to 18¢; broilers, 26¢ to 27¢; chickens, 16¢ to 20¢; turkeys, 19¢ to 20¢.
Vegetables—Potatoes, easy. Home-grown, 50¢ to 60¢ bu. Cabbage, \$3.00 to \$4.00 crate. Onions, 40¢ to 80¢ sack. Beans, green, 40¢ to 50¢ bushel. Corn, 12¢ to 14¢ bushel. Sweet potatoes, \$1.00 to \$1.25 bushel. Egg plants, 25¢ to 40¢ basket. Lima beans, 25¢ to 75¢ basket.
Fruit—Apples, new, \$1.00 to \$1.75 4-bbl. basket. Peaches, \$1.00 to \$2.00 carrier. Blackberries, 30¢ to 40¢ qt. Raspberries, 60¢ to 1¢ qt. Huckleberries, 50¢ to 1¢ qt. Currants, 8¢ to 12¢ qt. Muskmelons, 75¢ to \$1.25 per standard crate.

No. 3, \$14.00 to \$14.50; light mixed, No. 1, \$9.50 to \$13.50; rye straw, \$10.00; oat and wheat straw, \$8.00 to \$9.00.
Feed—Firm. Spring bran, \$20.00 ton. Standard midds, \$23.00. Corn meal, \$27.50. Oatmeal, \$25.50. Hominy, \$20.00. Oatmeal, \$29.50. Cottonseed meal, \$37.00.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., Aug. 18, 1913.
Virginia and Ohio stock, mainly of the grassy order, was on sale in rather limited but ample supplies. High grade steers commanding a premium. Cows more steadily rated; calves realized former prices.
Beef—Sheep and Hogs
Cattle—Lamb
Total for week, 1,844 12,348 3,797
Previous week, 1,729 9,898 4,161
Best steers, \$8.50 to \$8.75
Choice steers, \$8.25 to \$8.40
Good steers, \$8.00 to \$8.10
Medium steers, \$7.50 to \$7.75
Common steers, \$7.00 to \$7.25
Vets. and lambs, \$6.50 to \$6.75
Fair cows, \$6.25 to \$6.40
Thin cows, \$5.75 to \$6.00
Milk cows, \$4.50 to \$5.00
Veal calves steady.
Best calves, \$11.00 to \$11.50
Good calves, \$10.00 to \$10.50
Medium calves, \$9.50 to \$10.00
Common do., \$9.00 to \$9.50
Thin do., \$8.50 to \$9.00
This do., \$8.00 to \$8.50
Sheep ruled steady in every grade, with increased arrivals.
Choice sheep, \$4.75 to \$5.00
Good sheep, \$4.50 to \$4.75
Common to medium, \$4.00 to \$4.50
Ewes, fat, \$4.00 to \$4.50
Vets. and lambs, \$3.50 to \$4.00
Good to choice do., \$3.00 to \$3.50
Common to medium, \$2.50 to \$3.00
Thin do., \$2.00 to \$2.50
City-dressed veals, \$14.50 to \$15.00
Country-dressed veals, \$13.00 to \$13.50
Sheep and lamb receipts, 16,924 head
Dressed calves, 1,546 head
Mixed calves, 2,500 to 2,550
Shells, \$4.00 to \$4.25
Spring lambs, \$6.00 to \$6.25
Hog receipts for the week were 7,587 head.
Fair supply; fair demand.
Milk cows, \$4.50 to \$5.00
Heavy to medium, \$8.00 to \$8.50
Near-by, \$9.00 to \$9.50
Cows, \$8.00 to \$8.50
Kouhls, \$7.00 to \$8.00
Call receipts for the week were 324 head.
Fair supply and demand.
Light supply; market high at \$6.00 to \$6.75.

NEW YORK LIVE STOCK

New York City, Aug. 18, 1913.
There were 2,933 head of cattle received during the week.
Steers, \$5.75 to \$6.75
Bulls, \$4.50 to \$5.00
Cows, \$4.50 to \$5.00
Dressed calves, 12 to 13¢
Call receipts, 3,341 head.
Choice veals, \$8.50 to \$13.00
Culls, \$2.50 to \$3.50
Buttermilks, \$5.50 to \$6.50
Dressed calves higher.
City-dressed veals, \$14.50 to \$15.00
Country-dressed veals, \$13.00 to \$13.50
Sheep and lamb receipts, 16,924 head
Dressed calves, 1,546 head
Mixed calves, 2,500 to 2,550
Shells, \$4.00 to \$4.25
Spring lambs, \$6.00 to \$6.25
Hog receipts for the week were 7,587 head.
Fair supply; fair demand.
Milk cows, \$4.50 to \$5.00
Heavy to medium, \$8.00 to \$8.50
Near-by, \$9.00 to \$9.50
Cows, \$8.00 to \$8.50
Kouhls, \$7.00 to \$8.00
Call receipts for the week were 324 head.
Fair supply and demand.
Light supply; market high at \$6.00 to \$6.75.

ELGIN BUTTER QUOTATION

Elgin, Ill., Aug. 18, 1913.
The quotation committee of the Elgin Board of Trade this afternoon declared butter firm at 27¢ a pound.

NEW YORK MILK QUOTATION

The wholesale price of milk is considered to be \$1.71 per 40-quart can for class C, class B, \$1.81. Official quotations have been established.

PITTSBURGH HAY AND GRAIN

Pittsburgh, Pa., Aug. 18, 1913.
Hay market very active. Receipts and prices running light. Good grades have been scarce, and stock hard to place. Good old hay will bring premium of about \$1.00 per ton over new. Rye straw steady, light weight white oat straw scarce and wanted.
No. 1 timothy, \$15.25 to \$15.50; No. 2 do. \$14.00 to \$14.50; No. 3 do. \$13.00 to \$13.50; No. 4 do. \$12.00 to \$12.50; No. 5 do. \$11.00 to \$11.50; No. 6 do. \$10.00 to \$10.50; No. 7 do. \$9.00 to \$9.50; No. 8 do. \$8.00 to \$8.50; No. 9 do. \$7.00 to \$7.50; No. 10 do. \$6.00 to \$6.50; No. 11 do. \$5.00 to \$5.50; No. 12 do. \$4.00 to \$4.50; No. 13 do. \$3.00 to \$3.50; No. 14 do. \$2.00 to \$2.50; No. 15 do. \$1.00 to \$1.50; No. 16 do. \$0.50 to \$1.00; No. 17 do. \$0.25 to \$0.50; No. 18 do. \$0.10 to \$0.25; No. 19 do. \$0.05 to \$0.10; No. 20 do. \$0.02 to \$0.05.
Hog receipts for the week were 7,587 head.
Fair supply; fair demand.
Milk cows, \$4.50 to \$5.00
Heavy to medium, \$8.00 to \$8.50
Near-by, \$9.00 to \$9.50
Cows, \$8.00 to \$8.50
Kouhls, \$7.00 to \$8.00
Call receipts for the week were 324 head.
Fair supply and demand.
Light supply; market high at \$6.00 to \$6.75.

TOBACCO MARKET

In addition to other troubles, Pennsylvania tobacco growers encountered a severe hail and wind storm, doing much damage and serving to further reduce the already discouraging prospect. The accompanying rain, however, was much needed and will aid greatly in the maturity of the late crop. That the crop will be a small one is attested by the various estimates, none of which place the yield above 75 percent of an average. Occasional good early fields are to be found, but they are few and far between.

The tobacco growers' outing, held at Williamsport, Pa., was a decided success. The addresses were of a timely and instructive nature, reflecting great credit upon those who delivered them, and the entertainment was all that could be desired. The sad lack of cooperation was one of the principal subjects discussed. Other subjects treated were the importance of thorough cultivation of the tobacco plant, the importance of increasing the amount of plant food and of the selection of plants. It was shown that improved strains of seed may be developed and that root and potash, in addition to manure, increase the vigor of plants. The use of steam in sterilizing beds was strongly commended, it being stated that by this method practically every weed seed may be killed. It was decided to hold the general meeting at the tobacco plant at Landisville on the afternoon of September 10th, and to also hold a regular meeting at the same place and time.
There has been little change in the market outlook, there being no far-reaching reports. Values may be said to be about the same as heretofore. Favorable reports from most of the cigar tobacco growers had a depressing effect upon the general market, and the volume of transactions was small. The industry of the cigar tobacco growers is reported as in good condition, the demand for stock being steady. There is no indication of further depression in leaf prices.
H. E. Tweed, August 18, 1913.

August 23, 1913.

Veterinary

(Conducted by W. C. Fair, V. S.)
(Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer. Initials only will be published. When reply by mail is requested, it becomes private practice, and a fee of \$1 must accompany the letter. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, would make one of the most valuable medical symposiums a farmer-stockman could obtain.)

Infected Knees.—I have a fine Holstein calf, 6 weeks old, that has a lump on knee. This lump is soft and has the appearance of a bog spavin. E. G., Clifton, Pa.—The swelling on knee is perhaps the result of bacterial infection thru navel cord. Apply 1 part iodine and 20 parts vasoline to navel, once a day, and also apply the same ointment to knee twice a week.

Crib Biting.—I have a colt, about 3 years old, that has contracted the habit of crib-biting. The colt is thriving nicely, but I would like to correct this vice. Is there any drug that I can give him that will prevent this crib-biting? M. E. S., Sagertown, Pa.—Crib-biting is incurable. However, his stall should be arranged without a manger or corners, or edges of board for him to bite. Make the stall partitions perfectly smooth and smear them over with a combination of aloes or capsicum and oil. Feed him out of a low, oval-shaped feed box, set on floor. Give him a tablespoonful of cooking soda at a dose in feed, 2 or 3 times a day.

Surfeit.—I have a horse, 7 years old, that is troubled with small bunches in skin. I have noticed that these small bunches appear during hot weather only. Will you suggest a remedy that will cure him? I. O. G., Girard, Pa.—Your horse suffers from surfeit and perhaps eczema. Give him a dessert-spoonful of Fowler's solution of arsenic at a dose in feed, 3 times a day. Also give 2 tablespoonfuls of cooking soda at a dose in feed, twice a day. Apply 1 part bichloride mercury and 1,000 parts water to body, twice a day. Careful feeding and giving plenty of grass will have a good effect. Washing him with tepid water with a little borax in it after his day's work is done will give him comfort.

Partial Loss of Power.—Wolf in Tail.—I have a cow that came fresh a few weeks ago. She is very weak and is hardly able to get up without assistance. A neighbor of mine told me she suffered from wolf in the tail. G. A. M., Espyville Station, Pa.—There is no such disease as 'wolf in the tail.' The cow suffers from partial paralysis following calving. Give her 2 dr. potassium iodide, 1 dr. ground nut vomica, 1 oz. ground gentian, 1 oz. ginger in feed, 3 times a day. The cow's bowels should be kept open. This is best done by giving 4 lb. doses of Epsom salts, eight and morning. Apply equal parts turpentine, aqua ammonia and raw linseed oil to back, once or twice a day.

Summer Itch.—One of our work horses seems to have an itchy condition of the skin as soon as warm weather sets in. This is the third season she has been affected. M. S. E., Harmony, Pa.—You had better change her feed, feeding less corn and more green food. Also give her ½ oz. granular hypsulphite of soda at a dose in feed, twice a day. Also dissolve ½ lb. of hypsulphite of soda in a gallon of water and wash her with this lotion once or twice a day.

Ringworm.—We have several calves and one yearling heifer that are troubled with sores on head and neck and the skin has a mangy appearance. What ever it is, it causes itchy skin. P. O. City, Pa.—Wash the parts thoroughly with soda made by using some soft soap. Then apply 1 part iodine and 20 parts hard every two or three days until they are well. This disease is due to a vegetable parasite which can live on woodwork in stable; therefore if you are keeping them in a barn, it had better be washed, using fresh lime.

Convulsions in Chickens.—Lately we have had quite a few young chicks die suddenly. They acted very much as if they had a fit. M. F. C., Meadville, Pa.—You fail to state the age of your chicks. A change of feed is perhaps necessary. If you have milk on the farm, feed some clabbered milk, adding some well toasted stale bread.

Pennsylvania Farmer

U. S. CROP REPORT—AUGUST

The Crop Reporting Board of the U. S. Department of Agriculture estimates crop conditions on August 1 as follows:

Crops	1913	1912	Average, P. et. of
Corn	75.8	80.0	99.8
Wheat	74.1	90.4	116.4
Soybeans	74.1	90.4	97.0
All wheat	73.7	90.3	108.3
Oats	73.7	90.3	101.1
Barley	74.9	89.1	96.3
Rye	75.8	85.4	100.0
Buckwheat	75.8	87.8	99.3
Tobacco	78.3	82.8	93.4
Flax	77.4	87.5	85.1
Rice	88.7	86.3	114.0
Hay, all time	81.8	91.0	97.5
Apples	52.2	65.8	

The yields indicated by the condition of crops on August 1, 1913, and final yields in preceding years, for comparison, follow:

Crops	Yield per acre		
	1913* Bus.	1912 Final Bus.	1908- 1912 Av. Bus.
Corn	25.0	29.2	26.5
Wg. wheat	16.5	15.1	15.2
Ing. wheat	12.5	17.2	13.3
All wheat	15.0	15.9	14.5
Oats	26.8	37.4	29.7
Barley	23.1	29.7	24.5
Rye	16.3	16.8	16.2
Buckwheat	20.1	22.9	21.0
Ing. potatoes	42.0	13.4	9.6
Onions, lbs.	78.0	75.5	822.3
Hay	8.3	9.8	8.2
Ice	33.1	34.7	33.7
For all time			

NEWS FROM OVER THE STATE

Hay Crop.—The hay crop over the state appears to have approached the normal more nearly than supposed, and in many instances farmers cut more hay this year than ever before. Meadow hay was exceptionally fine in the Lehigh Valley, and owing to the soaking rains several weeks prior to haying, timothy and clover attained a fine growth.

Onion Section.—Crawford County will produce a bumper onion crop this fall, unless the unforeseen should occur. The best soil for onions in the state is found in the vicinity of Pymatuning Swamp, and thousands of acres are planted every year. Farmers are reaping a rich harvest and have little trouble disposing of their crop in nearby cities at wholesale. Crawford County farmers have set up strong opposition to the building of the dam and reservoir at the swamp, claiming it will put them out of business. The soil in the swamp is rich and particularly suitable to onion growing, but if the dam is built it will put an end to onion cultivation.

Cattle Feeding.—Many farmers of Warwick Township, Lancaster County, have abandoned tobacco culture and are raising cabbage. They will realize a good return in the Reading markets alone. Great difficulty was experienced in haying this year because of the lack of help. Farmers offered \$2.50 a day and board. Lancaster farmers have found cattle feeding a profitable industry. Albert Shenk fed 40 cattle during the winter. He bought 1,005 lb. feeders last fall and sold them at an average weight of 1,430 lb. He paid \$6.75 per cwt. and sold them at \$8.

Berks County farmers are also fattening more and more cattle every year. Daniel D. Fisher purchased 30 steers at Lancaster last fall which averaged about 880 pounds each. He paid 63 cents a pound for them—a high price at the time. These steers were fed 12 pounds of corn chop a day all winter and spring, in addition to hay. When sold recently they brought 8 cents a pound, and every one showed a nice increase in weight of from 300 to 400 pounds. Mr. Fisher not only received better than the market price for his hay and grain, but he has left the valuable manure.

Cow-Testing Association in Bradford Co.—The progressive dairymen of Bradford County have formed a cow-testing association and have engaged an expert tester from the State College. Thirty-two dairymen have joined, representing the districts of Troy, Canton, Grover, Allen, Cowley and Graustville, their herds numbering from 5 to 35 cows. The work of organizing was in charge of A. R. Goodman, of Washington, D. C., organizer of cow-testing associations for the northeastern section of the United States.

Co-operative Farming.—The farmers of Adams Township, near Johnstown, are reported to be planning to form a co-operative association by which a great many of the best farms will be operated on the co-operative plan. This plan has been tried out elsewhere, but with little or no success.—H.

NO BROWN-TAIL MOTH IN ST. LAWRENCE COUNTY, N. Y.

In a recent number of this paper the following extract from a news item appeared: "Report comes from the northern part of the state, Ogdensburg, that that section is overrun with the brown-tails, and that experts from Rochester are on hand to lead in a war of extermination." It appears that they were not brown-tail moths but a common and less harmful variety of moth. Our informant at Ogdensburg states that a tree doctor from Rochester was in the city and he claimed the insects were brown-tails. And he further said that "specimens of the moth had been sent to Albany, where they had been pronounced of the brown-tail variety." Sometime later he said that further information had been secured which caused him to believe that the insects were not brown-tail moths. The item printed in this paper was based on the statement by this "expert" before he had secured the "correction," but on his information that they had been pronounced brown-tails.

We are informed by the State Department of Agriculture at Albany that reports of outbreaks of brown-tail and gypsy moths have been made rather frequently, but investigation in every case proves the reports to be founded upon an error in identifying the moths. The Department is continuing to in-

vestigate every reported appearance of these pests, and may be relied upon to give authoritative statements of the appearance of either.—The Editors.

COUNTY NOTES

Armstrong Co., Pa. (S. W.), Aug. 11.—Very warm and dry. Hay, \$16 ton; potatoes, \$16.10 retail; cabbage, retail, 3c; wholesale, 2c; apples, windfalls, 25c per peck; hand picked, 40c per peck; corn, new, 20c per doz.; retail, 1.75 per bushel. Tobacco not looking very well. Farmers are fairly busy hauling manure, plowing and doing some odd jobs about the farm.—Arthur Allhouse.

York Co., Pa. (S. E.), Aug. 11.—Very warm and dry. Beef cattle selling at \$6.50@8.00 per cwt.; veal, 9c; hogs, 10c per lb., dressed. Wheat crop, a little shy; corn looking fairly well; wheat, 86c; corn, 78c; oats, 43c. Peaches a fair crop; selling for \$1.00@1.75 per basket. Tobacco not looking very well. Farmers are fairly busy hauling manure, plowing and doing some odd jobs about the farm.—Clarence D. Emig.

Bedford Co., Pa. (S. C.), Aug. 9.—Warm, good showers. Live stock scarce and high. Wheat crop is light, due to heavy freeze in the spring. Oats a fair crop. Corn is looking good. Winter apples looking fine, where they have been sprayed, while others are very faulty, due to short crop; average crop about 25 percent. Peach, plum and pear crop a failure.—N. F. Richards.

Delaware Co., Pa. (S. E.), Aug. 6.—Ground very dry. Cows not in great demand, due to shortage of pasture. Veal scarce. Late wheat gave a normal yield, but early plantings were almost a total failure. Corn needs rain. Almost no fruit of any kind.—Chester W. Amblor.

Venango Co., Pa. (N. W.), Aug. 5.—First part of July warm and wet, last part dry. Live stock scarce and high in price but in good condition. Hay and oats good; corn fair; potatoes poor; wheat good; buckwheat, good. Eggs, 30c; butter, 30c; potatoes, 50c; chickens old, 17c; live, young, 19c; lambs, alive, 7c lb. Farm work well along; hay almost all up and in good condition; oats harvest beginning.—W. J. Pringle.

Chautauque Co., N. Y. (S. W.), Aug. 2.—Very warm and quite dry. Not much stock moving; prices high. Cows, \$60@75; horses, \$125@250; fat hogs, dressed, 11c; poultry, live, 14c; spring chickens, 18c live; butter, 25c; eggs, 24c; oats, 52c; corn, 70c; feed, \$1.45. Oats harvest begun; crop good. Work well along. Corn only a fair crop. Grapes looking well but only 60 percent of crop.—J. L. Barber.

Clarion Co., Pa. (W. C.), Aug. 7.—Weather has been wet up until last week. Live stock scarce and high; scarcely any beef cattle to be had. Sucking colts scarce and selling at \$80 to \$100. Crops are good; oats a bumper crop; wheat was not so good. Hay is plentiful; old hay selling for \$12.00; new hay, \$8.00 out of field. Hay all made; starting to cut oats. Some plowing being done for wheat.—H. E. Nichol.

Perry Co., Pa. (C.), Aug. 3.—Very dry; no rain since May to amount to anything. Stock looks well in spite of the dry weather. Corn and late potatoes are suffering from drought; no rain in sight. Prices remain unchanged. Work well in hand; too dry to plow. Help very scarce.—L. B. Swartz.

Juniata Co., Pa. (C.), July 31.—July has been cool until the last week; now hot and dry. All kinds of stock in demand at good prices. Beef, 11@12c, dressed; hogs, 7@8c, live; lambs, 6@6 1/2c; cows, \$60@80; old wheat, \$1; oats, 40c; corn, 80c; hay, \$12 per ton; butter, 32c; eggs, 18c. Harvesting all done. Fair crops of hay and wheat; oats short, but grass good. Corn and pastures need rain very much.—D. B. Esh.

Cattaraugus Co., N. Y. (N. W.), July 28.—Warm and showery; some thunder and lightning. All kinds of live stock scarce and very high. We have the best hay crop in years; 25 percent better than 1912; corn is very late and prospects not very encouraging for farmers; pea crop for canning was a very good one. Farmers rushing haying; about one-half in barn. Oats are heading well; straw short; large average of buckwheat; looking fine. Eggs, 23c; butter, 32@34c.—Geo. E. Kellogg.

Pencil Wood.—According to a statement by the Forest Service of the U. S. Department of Agriculture, pencil manufacturers are buying in old red cedar fence rails in Tennessee and southward, to be made into lead pencils.

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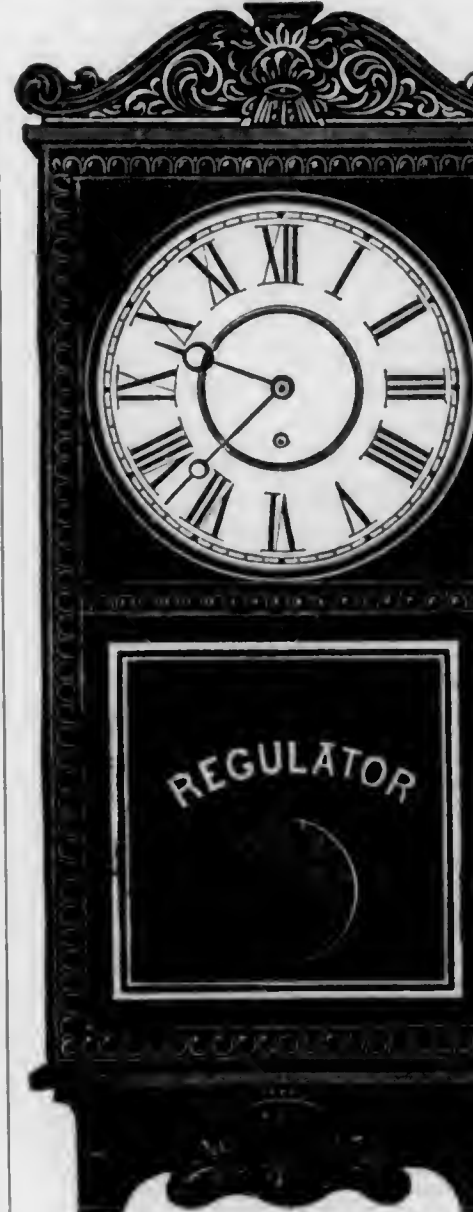
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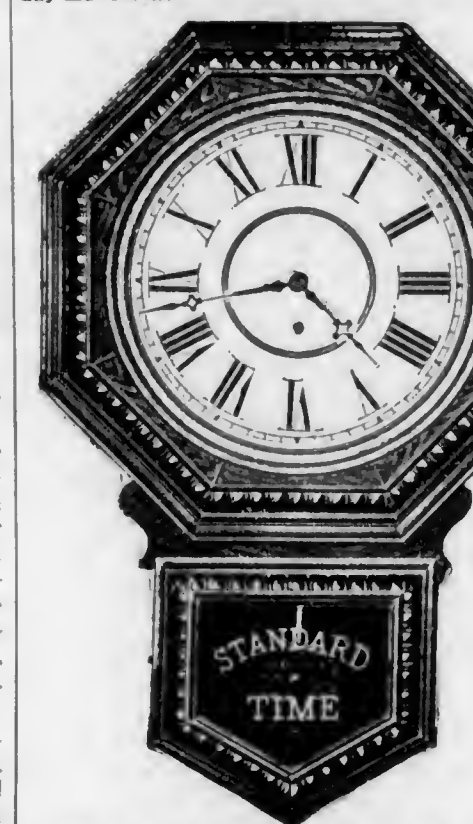
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VOL. 34.—No. 9

PHILADELPHIA, PA., SATURDAY, AUGUST 30, 1913.

2 YEARS FOR \$1.00.

Agriculture in the Public Schools.—By Prof. A. O. MacDonald, Mercer Co., N. J.

The illustration on this page shows a class in school gardening as conducted in Hamilton Township, Mercer County, New Jersey. The homes in the immediate community in which this school-garden is operated have not attached yards of sufficient extent to carry on any great amount of gardening for the purpose of furnishing vegetables for home use. Hence the plan was conceived of making use of the boys and girls in these homes to do this work in connection with their school. When the idea was laid before the people their confidence was won immediately, and they became very much interested. The Board of Education gave their consent and appropriated the sum of \$250 to meet all necessary

expenses, which sum the Department of Public Instruction duplicated.

The work was placed under the direction and supervision of Mr. Raymond Stone, a graduate of the Trenton High School and also of the short course in agriculture at Rutgers College. Mr. Stone entered on his duties March 1 and will continue in charge until about October 10, or possibly a little later. The remuneration which he is to receive for the whole period is \$300.

Plan of the Work.—Beginning with the month of March and continuing until school closed in June, every Friday afternoon from three to four o'clock Mr. Stone took the boys and girls in class, when he gave them instruction and demonstration

carefully as possible how to detect impurities and foreign seeds, and were shown the injurious effect these have on the crop.

The Soil.—The pupils were asked to bring to class specimens of soil from different localities, and these were studied. It was shown that soil is composed of mineral matter and decaying animal and vegetable matter. From this was drawn the observation of changes in virgin soil by cropping, which led naturally to the after study of the need and use of fertilizers. Then the above specimens were placed in pots and studied for insects and other forms of life, and the pupils were directed to keep up a continued watch to find out what becomes of these afterwards. Also, several of the pots were

kept constantly watered, to produce germination in the seeds, and when these had grown to a sufficient degree of development, they were studied to find out what they were. As the pupils began to realize that they were weeds, study was made as to how and when these came into the soil.

Another lesson was devoted to the study of the composition or structure of the soil. Here also examples were brought from different places and from different depths below the surface. The pupils were taught the difference between the various kinds of soil and the difference in fertility. Tests were made as to how these are affected by water and how long each one will retain the moisture.



A GLIMPSE OF THE SCHOOL GARDENS IN THE HAMILTON TOWNSHIP SCHOOL, MERCER CO., N. J.

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BOARD OF AGRICULTURE, Dover, Delaware.

ROOFING

Horticulture

GATHERING TRUCK CROPS

When to gather his produce, is one of the greatest problems that the truck farmer has to solve. Probably the uninitiated would say, gather when the crop is mature or ripe. But if we wait for a crop like cantaloupes to ripen fully on the vine, in what condition will it be when it reaches the market? If we can find a market where we can dispose of green tomatoes at 50 cents per basket when ripe ones are bringing 75 cents per basket, will it pay to sell them green or allow them to ripen? With a crop like eggplants, which will pay us better, to clip them when they have reached the size that the market prefers, or allow them to grow to a larger size and take a lower price per unit measure.

How often to gather the crop so as to economize in the labor of gathering and at the same time to have the greatest part of the crop in marketable condition, is another problem that confronts the trucker. Then, too, he has to know how to remove the crop from the vines without injuring either the plant or fruit.

For a market like Philadelphia, or any other so near that the produce can be sold the day after it leaves the farm, we find that cantaloupes should be picked as soon as they show a "slip," in which condition there is the appearance of a crack about the stem where it joins the fruit. At this stage, the yellow color is only to be found along the hollows between the sections of the cantaloupes. It is this slight yellow tint that guides the picker rather than the crack about the base of the stem, which is sometimes hard to see. The cantaloupes, when picked after they have slipped, are removed from the vine either by turning them back on the stem, or simply by pressing the stem off with the index finger, as they are lifted with the other three fingers and thumb.

It is advisable to pick cantaloupes every day, especially if the weather is warm. Of course, this makes the labor cost of gathering the crop much greater, but this is offset in two ways: First, there is practically no waste from a portion of the crop becoming overripe, as is the case when they are picked only every other day; second, a greater price is realized by reason of the uniformity of the product marketed.

In handling the tomato crop the problem is not quite so simple. In the Gloucester County trucking section of New Jersey, with Swedesboro as the greatest shipping center, buyers at the various shipping points have quite a demand for green tomatoes to be shipped to Canada and the West. These tomatoes have to be full size, or at the white-green stage, which is the last stage before the first blush of red appears. For these tomatoes the price paid averages about two-thirds that paid for ripe ones. Now the problem is, will it pay to pick them green or allow them to ripen? At first thought one would say allow them to ripen. But when they ripen on the vines, there is little if any increase in size. The strength of the plant, which could be better used in forcing the later so tomatoes into rapid growth, is used in the formation of seeds. There is also much waste from decaying and cracking when the tomatoes ripen on the vines. These reasons, however, are not sufficient to warrant harvesting the tomato crop green for two-thirds the price of ripe ones. The chief advantage lies in the fact that in a normal year the price decreases in such a ratio

as the season advances, that the green tomatoes can be sold at about the same price that would be obtained for them a week or ten days later when they ripened. If, however, the price is such that there is little advantage on either side, it pays to extend the time between successive pickings so that there will be time for a portion of the tomatoes to ripen. Then when they are picked the green and ripe ones are gathered together, thus saving the cost of an extra trip over the patch. It takes very little time to sort them as they are graded.

Some close observation is necessary



ITALIANS HARVESTING TOMATOES ON FARM OF H. T. KILLE, Gloucester Co., N. J.

to know just when to pick a crop like eggplants. The market prefers the eggplants when they are about half grown. Some growers, however, think it more profitable to leave them on the vines two or three days after they have attained this half-grown stage, as they will nearly double in size, in this time, if the weather is warm and moist. These growers prefer to take a smaller price per unit measure and handle, as they think, a much larger bulk. But from a comparison of the eggplants that are allowed to go to seed with those that are cut for market, I believe they are mistaken. From the hills saved for seed from three to five large fruits are secured during the entire season. As soon as these fruits reach such a size that the seed begins to form, no more will set on the plant. Last



PICKING PEPPERS ON FARM OF H. T. KILLE.

year from a patch of 4,450 plants we averaged about 10 fruits per plant. These were clipped from the vines while still a bright purple color and of the medium size that the market prefers. We believe we harvest a greater bulk from our bushes by cutting at the half-grown size, and we know we receive a much greater price for the bulk we do harvest, than growers who allow them to reach the large gray stage. At this stage seed has begun to form, so that there is not a corresponding gain in the size of the fruit for the amount of sap taken from the plant. When the fruit is cut at a smaller size, this sap is used in the

formation of new blossoms, and forces the younger fruit into rapid growth.

This fact—that as soon as a plant is allowed to form seed, new fruits do not set, and that there is not a corresponding gain in the size of the fruit after the seed begins to form, for the amount of sap used—has to be kept in mind in harvesting such crops as peppers, squashes and cucumbers.

With peppers, however, the market is willing to pay more for the red or older than for the green. But the red peppers should not be at least twice as much as the green per unit measure, otherwise it is unprofitable to allow

lifted from the ground.

The cucumber and squash, like the cantaloupe, should be picked every day when the weather is favorable for rapid growth. The egg plant should be clipped every second or third day, while the peppers need be picked but once a week.

To draw a conclusion from the few crops considered: It is necessary to study the needs of the market and habits of the plant in setting and maturing fruit before one can tell just when and how often to gather the crop. It is also very necessary to study the habits of growth of the plants in order to know just how to get the fruit from the plant so as not to injure either the fruit or the plant.—Harris T. Kille, Gloucester Co., N. J.

CABBAGE DISEASES

Club-root.—The roots of affected plants are enlarged and distorted. The plants are stunted and may wilt. A microscopic organism invades the roots and stimulates excessive growth. This organism produces myriads of its reproductive spores in the affected parts, and these are left in the soil after the roots decay to affect later crops. Soil infection may persist for many years. Cabbage, cauliflower, turnip, radish, mustard, wild mustard and pepper-grass are susceptible. The disease often starts in the seed bed and is carried to gardens and fields when slightly infected plants are set out. Infected soil may be washed to the new places, or may be carried on implements, the feet of stock, or adhering to the roots of any kind of plant. Manure may be contaminated by feeding diseased material to stock.

Control.—Secure uncontaminated soil for the seed bed. Disinfection of such soil may be accomplished by heating it sufficiently to cook a potato, or by drenching it 10 days before planting with formalin, one pint in 15 gallons of water. If uncertain about the seed bed soil, use several lots, and discard altogether any lot of plants showing any sign of disease. Be cautious in buying cabbage plants from other growers. Practice a three or four-year rotation on infected soil, avoiding all susceptible crops, and keeping down weeds of the mustard family. Applications of lime at the rate of 80 bushels per acre, made the fall before planting and thoroughly worked in, will materially reduce the disease in most kinds of soil. Guard against spreading the contagion by means of infected soil or manure. Pull up and destroy old cabbage plants.

Black Rot.—Certain leaves become brown and parchment-like, frequently over only a portion of their extent. The veins are very dark and show distinctly thru the affected area. The woody strands of the larger veins, leaf stalks and stems show a black discoloration and frequently a rotting of the tissues so as to leave open channels. Some of the roots may be rotted. The heads are dwarfed and often misshapen. The cause of the disease is a bacterium. It can live over in the soil, and frequently enters the small roots and works its way thru the larger ones into the stems and out into the leaves, discoloring the tissues along its path. Insects feeding on infected leaves will get the germs on their mouth parts and introduce them into feeding wounds made on healthy plants, in which case the disease progresses in the reverse direction in the plant. Cauliflower, turnip and wild mustard are also susceptible.

Control.—All of the measures suggested for club-root must be heeded, except that liming does not seem to have a specific effect here. In addition, insect carriers must be controlled. Good results have been reported by many from pulling out affected plants

as soon as the symptoms develop. The seed may be contaminated externally with the germs. It is a wise precaution to soak them for 15 minutes in formalin, one teaspoonful in one and a half pints of water.

Yellowsides, or Fusarium Wilt.—The lower leaves turn yellow and drop, leaving a small tuft of half-grown ones at the top of a stem that may be slightly enlarged. The wood of the stem shows brown discoloration. These symptoms frequently appear on one side only of the plant. The cause is a fungus that persists in the soil, enters the roots, and grows upward thru the stem. Infection of the plant may take place in the seed bed or after transplanting.

Control.—Disinfect the seed with formalin. Plant in an uninfected seed bed. Guard against buying infected plants. Do not plant cabbages where diseased ones have grown until four or five years have elapsed. Clean up old plants. Avoid spreading the disease thru transfer of infected soil or manure.

Black Leg, or Phoma Wilt.—The base of the stem from near the surface of the ground downward for two or three inches shows a peg-like shriveling, with

knowledge concerning them and especially of their excellent quality when cooked or preserved.

From the grower's point of view they have several excellent qualities. They are strong, hardy growers; they are usually much more productive than are either the reds or blacks, and the fruit is firmer and ships much better than do the reds. Some growers insist that they can grow them profitably at one-half the price of Cuthberts. This will probably not hold true for all sections, but as a rule they may be grown profitably when sold from three to four cents below the market price for reds or blacks.

I was recently in a section where purple berries sell for the same price as reds. In this section they are always used for canning and the reds and blacks are used fresh and shipped to other markets. The responsibility for this condition lies almost wholly with one grower. He had been induced to plant a quantity of purples and found that there was but little market. He also discovered, as have many others, that they are excellent when canned. He tried to convince his customers of this but failed until he hit upon the plan of giving a few quarts to pros-



A PLANTATION OF PURPLE RASPBERRIES FOR HOME USE,

a dry, brown surface dotted over with very minute black dots. The leaves usually wilt in later stages. Often they develop large brown spots, irregular in outline, thickly sprinkled with minute black dots. This, too, is a soil disease, and it has only recently attracted attention.

Control.—The general measures outlined for yellowsides should be followed.—Prof. H. R. Fulton, North Carolina Agri. and Mechanical College.

THE PURPLE RASPBERRIES

The purple raspberries are hybrids or crosses between the common red and the common black raspberries, and, like most true hybrids, are more vigorous and productive than either of the parent species. They partake of the characters of both parents, but the different varieties are quite dissimilar. All have purple fruits and usually purple canes. In the most commonly cultivated varieties the manner of growth is much like that of the black raspberry, and they are propagated by means of the root-tips rather than by means of suckers, as are red raspberries. Both the plants and fruits are larger than those of either the reds or the blacks, and the fruit resembles the blacks in form and manner of growth, but is purple in color and partakes of the flavor of both parents.

Purple raspberries are not grown as largely as they should be for the very good reason that they do not sell readily in most markets in competition with the reds and blacks. To many people their flavor is a little strong, especially when fresh, but the greatest reason for the prejudice against them is a lack of

peetive customers on condition that they can them. This demonstrated the fact and from that time purple raspberries have been the favorites for canning in that section. This plan may be worth repeating in other localities.

There are several varieties of purples, but for general planting the Schaffer and Columbian have usually given the best satisfaction. The Royal Purple and Haysmaker are not considered as good in quality nor as productive in most sections.—Prof. W. J. Wright, Alfred University, N. Y.

SAVE WASTE OF PENNSYLVANIA APPLES

To encourage farmers in western Pennsylvania to resume the making of apple vinegar and thus save thousands of bushels of valuable apples from rotting each year, the U. S. Department of Agriculture, thru the Bureau of Chemistry, has just issued a special notice telling these apple raisers of their rights. Some years ago a great deal of misunderstanding and misinformation regarding the Pennsylvania vinegar law got into circulation. Dealers became afraid to handle the farmers' vinegar, thinking it would not meet the requirements. Farmers allowed their apples to rot upon the ground for the same reason. The present Pennsylvania law reads that vinegar shall be the legitimate product of pure apple juice. Dealers should be no more afraid of handling farm vinegar furnished by reliable parties than any other vinegar furnished by similarly reliable parties. If the farmer has made the vinegar himself, and knows that it is made from pure apple juice, he need not hesitate

to sell and guarantee it. He will be absolutely within his rights in doing so, is the advice of the government food laboratory.

TOMATO DISEASES

Two wilt diseases that attack the tomato have been reported in some parts of the great Eastern Shore of Maryland. One is the Southern bacterial wilt and the other the Fusarium wilt. Either of them destroys the plants very speedily. The only thing that can be done is to breed up resistant varieties by taking seed from healthy plants that grow among diseased ones. There are some resistant sorts already. All the little cherry, plum and pear-shaped tomatoes resist disease, and there is a variety grown from a cross of one of these on a larger tomato. This is the Texas Belle. It is a pretty little tomato, about the size and shape of a small biscuit, and is the most resistant tomato to rot and blight of all sorts that I have ever grown; but it is too small for a commercial sort. But it would seem that this will make a good starting point for the Southern Experiment Stations to work with in breeding a better sized and resistant variety. There are several blights that attack the foliage of the tomato, but these can be prevented by regular and repeated spraying with bordeaux mixture at least three times. I make this the 5-5-40 mixture.—W. F. Massey, Wicomico Co., Md.

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The Dairy

AT THE MERCY OF THE INSPECTORS

After all the agitation over New York milk inspection, the same trouble is still on. In my own locality we have gotten rid of it temporarily by shipping milk to another city, but in the next town the same old difficulties continue. If a man is not just so respectful to the inspector he is very liable to get notice to discontinue sending milk. One instance not long ago occasioned some comment. The farmer was very busy with his work and did not wait to give the inspector the consideration he desired. There was no reason to suppose that conditions were bad, but that made no difference. The creamery people got a telegram from the board of health that they must not receive the milk from that dairy any longer. From what I can learn, that is a good case for commencing an action for slander. It ought to be tested.

A case was tried in Delaware County to determine the right of New York City inspectors to enter a farmer's premises and determine for his own pleasure what he thinks of the conditions, and then order the creamery to refuse to accept the milk under a threat that the creamery will not otherwise be allowed to sell milk in the city. That case went thru the courts, and a non-suit was granted, only to be affirmed further up. The idea is that if the board simply tells the creamery to do certain things it has not broken any contract with any farmer, and therefore the farmer has no ground for action against the board. On the other hand, the creameries are so afraid of the board that they will not contract with a farmer without stipulating that they may refuse the milk if so ordered by the board. Thus it is that the farmer has no claim against anyone for damages.

The question comes up at once whether the farmer is absolutely at the mercy of foreign foes, such as the New York City Board of Health. If a man is running for office or is in business, and someone reports stories about him that are damaging to him, he has redress. Why not the farmer? It looks as the some one, backed up with a little money, and having a good allowance of old-fashioned grit, might make it interesting for somebody who, as an entire outsider, reports, even by inference, that a certain farmer is engaged in harmful practices in his business, and thereby deprives him of his market. That outsider would be obliged, so it seems, to come pretty near proving that the product he sells is harmful. It goes without saying that it will require something besides bluff to prove to a jury of farmers that the milk is harmful unless the conditions are really bad.—H. H. Lyon, Chenango Co., N. Y.

HOW A HERD IS INFECTED WITH TUBERCULOSIS

Tuberculosis may be introduced into a healthy herd in a number of ways:

1. By the purchase of a bull or other animal that is infected with the disease. This animal may be apparently healthy at the time of purchase, but if it contains the germs, the disease may develop and spread to other cattle. New animals should be bought only from a herd that is known to be healthy.

2. By feeding calves with milk, but termilk or whey that has come from tuberculous cows. A farmer may have a healthy herd but if he brings home

skim-milk from a creamery and feeds it to his calves he may give them the disease. Such milk should be rendered safe by boiling or pasteurizing it.

3. By showing cattle at fairs and exhibitions where no proper care is taken to keep out diseased stock or to disinfect the stables.

4. By shipping animals in cars that have not been disinfected, as these may have recently carried diseased cattle.

5. By allowing cattle to graze with diseased ones, or to come in contact with them over the fences.

The Tuberculin Test

Tuberculosis develops so slowly that in many cases it is months and sometimes years before any symptoms are shown. During this period the infected animals can not be distinguished from the healthy in any ordinary way. There is a test, however, which does no harm to the healthy yet detects the diseased practically without fail. This is known as the tuberculin test, because the substance used in making it is called tuberculin.

Tuberculin is a fluid containing the products of the tubercle germ without the germs themselves. As it contains no living germs, it can not convey the disease. Great skill is required in its preparation. A special fluid (or culture medium) is prepared and the tubercle bacilli planted in it, great care being

taken that the animal that reacts must be considered tuberculous.

Limitations of the Test

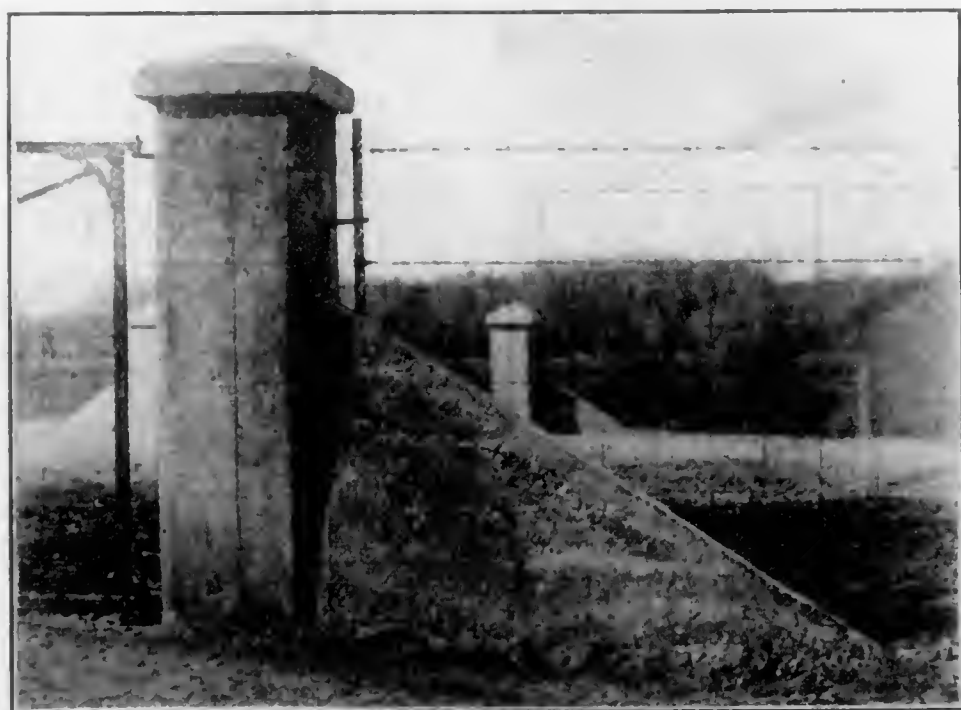
The test should not be applied to cows that have just calved or are about to calve, as the temperature at this time is very apt to vary considerably from the normal. For this reason it should not be applied to any animal that is in feverish condition from any cause.

The test fails to detect the presence of the disease in the animal that is very recently infected. The disease has made a little progress before the test reveals its presence, and in the beginning of each case there is a period between the entrance of the germs into the body and the time when they have multiplied sufficiently for the test to reveal their presence. This is called the period of incubation and lasts from ten days to two months.

When the disease is far advanced and the animal is wasting, the test sometimes fails to detect it. This is not of much practical importance, as such cases can generally be recognized without the aid of tuberculin.—Dr. Floyd W. Robinson.

FALL WORK ON THE DAIRY FARM

During the autumn months the activities on the dairy farm focus about



2. A NEAT AND SUBSTANTIAL CONCRETE GATE POST.

taken to keep all other germs out. The fluid is then placed in a special kind of incubator and kept at the temperature of the animal body. Under these conditions the germs grow and multiply. Gradually the fluid becomes filled with the product of the germs. When the right point is reached the fluid is heated sufficiently to kill the germs, which are then strained out. The remaining fluid is tuberculin.

Tuberculin does not harm healthy cattle, even in large doses, but on diseased animals it produces a marked effect. This is shown by a feverish attack which comes on about 8 to 12 hours after the tuberculin is administered, lasts a few hours, and then subsides. This temporary fever is called the reaction, and the animals which show it are called reactors. The value of the test lies in the fact that diseased animals react or show fever and other symptoms, while healthy ones do not.

Reliability of the Test

The tuberculin test in the hands of a competent and experienced man is much more accurate than any other method of detecting tuberculosis. The records of large numbers of tests made by government officials show that with certain precautions it is accurate in 98 percent of the reactions obtained. This gives a margin of a possible 2 percent of error, and this small number may be still further lessened by care in making the test. For practical purposes any

supplying foods to maintain satisfactory milk yields and flesh condition so that the cows may produce liberally during the period of high-priced products, and go into the stable in condition to make the most efficient use of their food during the winter months. The drought during the past summer has caused many cows to run down in milk yield and flesh condition, consequently the coming winter is sure to be an eye opener to the inefficiency of many cows that have started the winter in a half-starved, emaciated condition.

Thinking men can not avoid serious consideration of the problems which dry weather has created, and thinking about these problems will inevitably lead to means of providing feeds to carry the cows thru the fall months in good condition. Grass does not grow rapidly after cold weather comes, and what does grow contains but little nourishment. The dairy farmer who plans to have an abundance of supplementary green foods available at this season is wise indeed but wiser still is the farmer who grows enough ensilage so that he can open one silo and begin feeding his cows as soon as other foods begin to deteriorate.

The next best feed after ensilage is oats and peas sowed along in July and cut and hauled to the stable and fed. To make the best use of oats and peas they should be cut and fed when in the milk stage of the oats, and this will

require that we sow at various times, so that one plot will be ready to feed as soon as it is needed for feeding. We generally sow one bushel of oats with one-half bushel of peas in each one-third acre plot. With the exception of alfalfa, there is no kind of feed superior to this mixed crop to keep up the flow of milk and keep the cows in good flesh condition.

For early fall feeding there is nothing that will be eaten with more relish and give better results than sweet corn. This may be put in with a grain drill by closing all but three hoes, and it will make a good growth and furnish many ears which will add to its value as a food for the cows. Sweet corn is a very palatable feed and the cows will eat large quantities of it, in many cases enough to make up for the shortage of pasture grasses.

Filling the Silos.—Before it is time to fill the silo it should be examined, and if a stave silo the hoops should be tightened and the doors fitted and numbered, so that each one will fit properly in its place as soon as the silo is filled up that fall. All of these things should be attended to before the crew and machine begins the work, for it makes expensive delay to stop all hands when the tinkering could have been done at some more favorable time. We figure that it costs us about \$50 to \$75 per day to keep business moving at silo filling time, and we plan to make the time count as much as possible.

We start one binder cutting the day before filling time, and then keep two machines cutting while the corn is being run into the silos. We do not like to have too much corn on the ground before we begin filling, owing to the danger of rains and unfavorable weather; a rainstorm will not seriously affect the feeding value of the corn, but it is almost impossible to find men who will handle the wet and muddy bundles of corn in the field.

When the cornfield is convenient to the silos, we use four teams and wagons to haul to the cutter and four or five men to hand the bundles up to the drivers. One man is kept at the cutting box to save the strings that are tied to the bundles. This is more a matter of precaution than to save the strings, for a few cases of injury to cattle after eating the strings have proven that it is a judicious practice. The saving of strings will almost pay the extra expense involved in hiring an extra hand.

Two or three men are kept inside of the silo to keep the edges packed down and to keep the silage distributed evenly over the top. A good working crew of 14 men, besides the men with the engine and cutter, will put up about 100 tons of ensilage a day, providing there is no delay or breakage.

I find that on figuring everything on a strictly cash basis, it costs me about 70 cents a ton to harvest the ensilage crop; this is, allowing each man \$2 a day and the teams \$4 a day and the machine and men \$2 an hour actual running time. Of course, this is not the actual cost, for there are conditions that we can not allow for, but taken one year with another, I believe that 70 cents a ton is a fair average for the cost of cutting the corn and filling the silo.

When it is possible we fill one silo on a Saturday and allow it to settle over Sunday. Then we fill the other on Monday and place a woven-wire fence around the top of the one that is filled and refill to the top of the fence. When it settles it will be as near full as possible. After this we refill the other the same way. For a few days we keep the edges well packed down. We lose but a small amount of silage. When it is possible to exchange help, the cash cost of filling the silo may be

greatly reduced, but my figures are on a cash basis, hiring everything done by hired labor.

Before the cows go into the stable it will pay to make out an inventory of the home-grown feeds and the number of cows that are to be wintered. The dairyman knows approximately the amount of home-grown feeds he will have and whether his hay is good or indifferent. If it was cut early and properly cured it is good; but if it stood until too late it will not have nearly the feeding value of that cut at the proper time. He knows the amount of hay he has in the barn. He knows the amount of ensilage, fodder and straw he can profitably use. He knows the number of cows in his herd that are worth keeping over for another year.—W. M. Kelly, Erie Co., N. Y.

GOING BELOW THE SURFACE IN BUILDING A SILO

I expect to put up a 30-ft. full stave silo, and think of increasing its capacity a little by extending it about two feet below the surface of the ground. Will it be safe to do this, or will there be danger of water getting into the silo? Also please tell me how thick I should make the cement wall for the underground portion of the silo.—H. C.

It is perfectly practical to go down two or three feet below the surface of the ground with a silo, but probably no further, for the reason that it is too much of a job to get the ensilage out. If you make it so deep that the silage can not be thrown out with a fork, you will have to rig up some sort of a windlass and bucket to draw it up with. Otherwise it would be practical to go deeper into the soil.

Another thing to be taken into consideration is the seepage of water, especially when the silo is empty. In summer when the silo is empty, if the ground is moist, water will seep thru so that you will have to bail it out when you fill the silo. If you dig down three feet below the surface, and the land is clay, the ordinary grout wall used for a foundation will not prevent seepage very much. After you build the grout wall for the foundation, plaster it on the inside with a rich coat of cement mortar. This mortar ought to be made in proportions of at least two to one. You want to get in enough cement so that it will fill in between the particles of sand, which will give a very close surface, one that will not allow water to seep thru. When you go to all this extra work of excavating and plastering on the inside, you are not building it very much cheaper than you would by making the silo that much higher. So far as expense is concerned, you are gaining very little.

For the ordinary foundation of the silo, it is not necessary to mix the cement and the sand richer than in the proportion of one part of cement to seven parts of good sharp sand or gravel. If you have the stone handy you can use a great many small stones in the foundation to good advantage. It will save hauling the sand and will save cement.

Make your form out of boards, put in a good layer of the grout mixed up rather thin, and fill in with cobble stones all around; then put in another layer of grout and fill in with cobble stones. This will save cement and make a very strong and durable wall. In going down into the ground two or three feet for a silo make the foundation wall about a foot thick on the bottom and gradually taper it, or you can make it a foot thick up to the surface of the ground and then gradually taper it to eight inches, which is thick enough for the top of the wall. You can bring it up as high as you want

above ground, but when you finish it, be sure to have the outer edge of the wall lower than the edge on which the staves rest, because you want all the water that runs down the side of the silo to run off and not settle at the base of the staves. We have all seen stave silos where the top of the wall was made perfectly flat, or seemingly lower on the inside of the wall where the staves set than on the outside. Consequently the water stands around the butts of the staves and rots them. Such silos show staves that are worthless, just because the wall was not so connected that the water would run off.

NATIONAL DAIRY SHOW

A truly great program has been arranged for the coming National Dairy Show, to be held at Chicago, October 28 to November 1. The meetings and conventions which will make up the show include the National Ice Cream Manufacturers' Association, International Milk Dealers' Association, National Dairy Union, International Association of Dairy and Milk Inspectors, American Association of Creamery Butter Manufacturers, National Creamery Managers, Dairy Department men of the state Agricultural Colleges.

In addition there will be special meetings of the following breed associations: The American Jersey Cattle Club, Holstein-Friesian Association of America and the Dutch Belted Cattle Association of America.

The program of days dedicated for special purposes is as follows: Grange Day, October 24; Women's Club Day, October 25; Mothers' Day, October 26; Ayrshire and Creamery Manufacturers' Day, October 27; Jersey and Railroad Men's Day, October 28; Guernsey and Milk Dealers' Day, October 29; Holstein and Milk Producers' Day, October 30; Ice Cream Manufacturers' Day, October 31; Children's Day, November 1.

Ultra-Violet Rays Do Not Sterilize Milk.—Following the practice of sterilizing drinking water by the use of ultra-violet rays in Europe, the Department of Agriculture conducted tests to determine its effectiveness in sterilizing milk. The test showed that the rays would not serve the purpose. They do not kill all the bacteria, and they impart a disagreeable flavor to the milk. With cream they are even less satisfactory.

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Registered Holstein Bull Calves. Sired by Col. O. Kornelyke de Kol, No. 7226, one of the best sons of Pontine Kornelyke from heavy milking Registered cows, at reasonable prices. **Donald F. McLennan, Syracuse, N. Y.**

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Live Stock

A PORTABLE FEED RACK

While attending an institute last winter I met a man who described to me a feed rack, the plan and construction of which seemed to surpass my own. As will be seen from the diagram, these boxes have side rails and upright studding on sides, which prevent cattle from crowding one another so much while feeding, and also from wasting so much feed by throwing it out of boxes as they sometimes do where boxes are open on sides and top. These boxes or racks are made so that they can be moved from place to place with horses. My boxes are so made that when the manure or litter becomes filled up around them they can be lifted up and set on top again by two men.

The bottom of this rack, Fig. 1, is 4 ft. wide; the sides are oak, 5x7 in. and 16 ft. long, sloped at one end like a sled-runner. Set sills on edge and dovetail cross-pieces into them as shown, to prevent spreading. Bore holes 16 in. apart with a 2-inch augur. Cross-pieces are 2x5 in., and 4 ft. long. The top rail of side frame (Fig. 2) is 2x5, 16 ft. long, oak. Studding (uprights) 2x2 in., 4 ft. long, ends rounded to fit in holes in sill and top rail. Board up as high as desired. Take a log 10 ft. long to mill and have it sawed as follows for each rack needed: 2 pieces 5x7 in.; 5 pieces 2x5 in.; 10 pieces 2x2 in.; 6 boards 1x8 in.—J. B., Ohio.

TAPE WORMS IN SHEEP

I am losing lambs. We find tape worms in some of them and we also find that some are troubled with nodular disease. What strikes me as being rather peculiar is that some of the lambs die on a full stomach; but the small intestines are empty, except that the bowel is fairly well filled with tape worms. We have taken nearly 100 feet out of one lamb. Can you give a remedy for such worms and where do they come from? The sheep seem to be bloodless.

—C. H. B.

Tænia Expansa is the scientific name for tape worm and it has caused great loss to sheep raisers, not only in America, but both Australia and Germany, also in other countries. Its cystic form is by no means too well understood. However, in order to check its increase I know of no better plan than by watching what sheep pass the ripe, detached segments, shutting them up while treating the sheep, burning not only the worms that are expelled but all the excrement which they pass while the vermifuge is given.

The tape worm of sheep varies in length from eight to thirty feet and I have seen them much longer. They are a dirty white color. The head is about one-twentieth of an inch wide, but flat, tail nearly a half inch wide, but flat. Sheep that have them are usually pale in the skin and the mucus membranes are white instead of red. They generally cause scouring, much emaciation, great weakness and sometimes death. In order to obtain the best possible results from treatment sheep should be fasted for 15 hours. I have obtained the best results by giving kamala, following it a few hours later with a brisk dose of Epsom salts or castor oil.

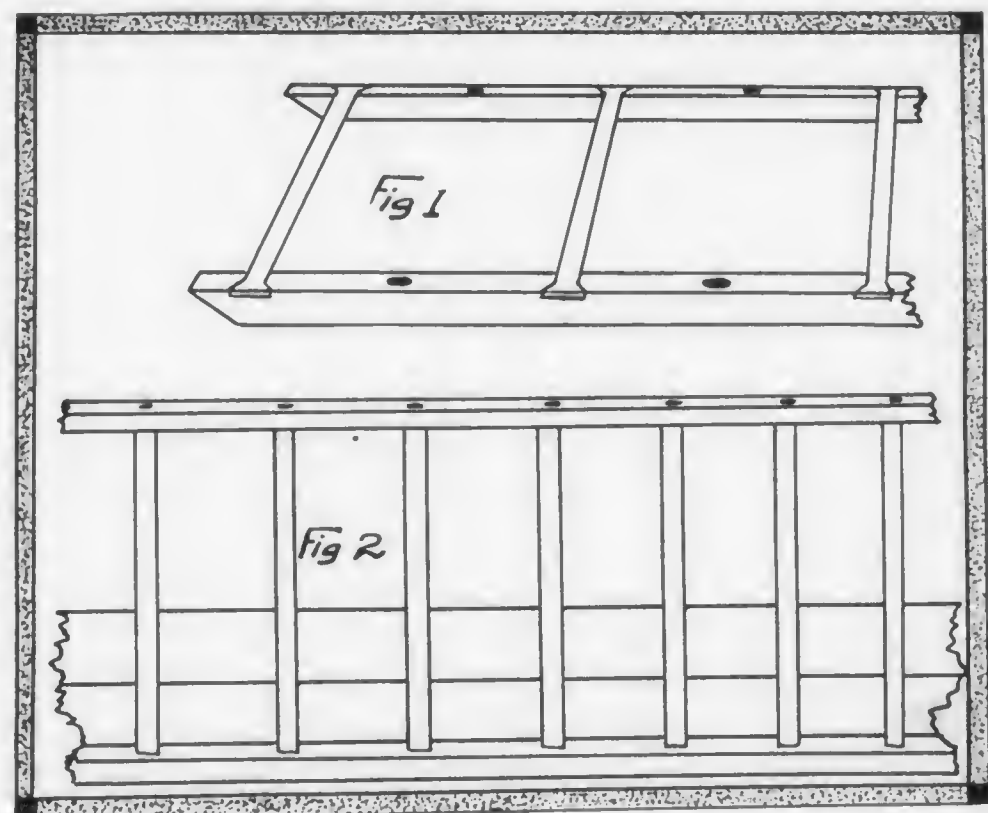
Oil of turpentine given in milk gives fairly good results, and I have obtained excellent results by giving etherial extract male shield fern. Try giving three drams of kamala in three or four ounces linseed gruel or milk. This is a full dose for an adult sheep; if the bowels do not move freely give two or three ounces of castor oil four hours after the kamala was given. If this

dose fails to bring results give one dram male shield fern in three or four ounces castor oil, and if it is not convenient try the turpentine and milk, giving with it a teaspoonful of powdered area nut, and you may add half a teaspoonful oil male fern, giving it in four ounces of sweet milk or raw linseed oil.

When giving sheep a drench of this kind they should be allowed to stand on their feet in a natural position, the head should be raised only high enough for the medicine to run into back part of mouth; the common custom of pinching the throat is not only wrong but dangerous, for it induces coughing, some of the medicine may go down the windpipe into the lungs, causing great irritation and bringing on bronchial pneumonia, followed by death. The medicine should also be given slowly, for if poured down rapidly it might get into paunch and fail to do much good. Be sure and not hold the head too high when giving the medicine. Purchase drugs of a reliable druggist or you will fail to get satisfactory results in the treatment of worms.—W. C. Fair, V. S.

WINTERING FALL PIGS

Many contend that fall pigs do not pay. Many a drover has put up the proof that they do not pay; hundreds



PORTABLE FEED RACK.

of fall pigs argue the other way. The fact is that profit depends on care and management. Every farmer has droves at times that pay much better than others; and whatever they may say, it is my personal opinion that most farmers at one time or another have pigs that do not pay. In our personal experience we have observed how much more thrifty some pigs are than others, possibly handled slightly differently.

Fall pigs are unusually subject to damaging infestation by lice and worms, because being at the end of the warm season, the pests are abroad in great numbers. Therefore the sows should be well oiled with crude oil or dip, so as to destroy the lice before time for the fall litters to arrive. After their arrival the pigs may be dipped in a barrel or sprayed occasionally. Give sows and pigs access to charcoal or coal, ashes, salt, etc. If the pigs can be farrowed on ground not occupied by hogs during the summer, the damage from worms will, of course, be less on account of the ground not being infected. The best crop of fall pigs we ever raised were on ground for the first three months or which hogs had not been kept for several years.

Pigs do not need unusually warm quarters for winter; sometimes build- ings are so warm as to cause pigs to stay in them too much, get tender, chill

when they go out, and otherwise get irregular. At first signs of thumps in any of such pigs they should be provided with a small airy pen, not too well supplied with bedding, and located in a near-by field. Generally in their effort to find a hole in the fence, whereby they can get back to the drove, such pigs will gain sufficient exercise to be of much benefit to them. Later, as they roam about the field, they often improve rapidly and recover entirely, of course, if taken in time. Our pigs wintered in the open field in portable pens 20 rods from the feeding place never got thumps; however, when wintered in the regular hog house and having the run of a stack yard three were affected.

Generally in winter there is sufficient time to attend to the needs of the pigs in the way of regular feed, clean quarters, etc. In the cool days of spring the fall pig rapidly fattens out and makes a heavy hog by May.—Geo. P. Williams, Delaware Co., Ohio.

PROFIT IN SHEEP RAISING

That farmers may derive handsome profits from sheep raising if they will but give their flocks the necessary care, is the opinion of Frank Kleinheinz, shepherd of the flock of the College of Agriculture of the University of Wis-

consin. He says that the sheep raised on Meadow View Artful Belle II. The young boar, May Belle's Master, piece X, farrowed March 4, 1913, brought \$130.

Mr. L. E. Frost, editor of the Berkshire World, and Colonel Merriman, the auctioneer, stated that the prices were very satisfactory to the sellers, and should also prove very profitable to the purchasers. The attendance and character of the people present and local conditions generally were the best they had encountered for a long time.

EYE AS A HOG FEED

Is rye meal a good feed for hogs on pasture? Is there any danger of feeding too much of it?—E. W. M.

Rye meal is a very satisfactory feed for hogs on pasture. In fact, it compares quite favorably with corn as a food for fattening hogs when fed as a thick mash, soaking each feed from one feeding to the next. Extensive experiments made to determine its relative feeding value indicate that, while it gives a slightly lower gain than corn, it makes an even better quality of pork. The writer has fed it quite extensively, and has never found any difficulty to result from a liberal ration where the hogs were on good pasture. However, better results will be secured from a mixed grain ration if it is available. Where too young pigs are fed on a ration composed exclusively of rye without any green feed, bad results sometimes follow, as it is too binding and heating, but it can be safely used as a factor in the ration the same as corn.—W.

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—Extra fine, pure, also seed of Red Mediterranean, Grey, White, Rye, White for samples and prices. **C. C. VALE, Rt. No. 15, New Carlisle, Ohio**

SHEEP

THE REASON WHY!
FOR PARSONS, the sheep man of the East.
I sell and ship everywhere and pay express charges. I will start one man in each two States for club offer and de Oxfords, Shropshires, and Polled Dorsets. Descriptive price list. **Kimsville, Md., July 15, 1913**

PARSONS, Grand Ledge, Mich., Rt. 2
Dear Sir: I received Oxford Sheep yesterday of good shape and will say he is a peach. When I got home with sheep a couple of my neighbors ran over and looked him over. They said he was the biggest sheep they ever saw and the best kept here. I will keep the crate. I paid the express agent \$2 for it. Thanking you for your prompt delivery. I remain, Yours truly, Arthur I. Peck.
At one time men drove many miles in search of Rams; nowadays PURE BRED Sheep are ordered by letter!
"The Sheep Man of the East"

PINEHURST SHROPSHIRE—RAMS and ewes of the BEST SHROPSHIRE FLOCK in AMERICA. Send for Catalogue to Henry L. Wainwright, Box 31, Springfield Centre, Ohio (Col. N. S. Wainwright).

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Large Berkshire—Swine, Registered High grade, prices reasonable. **Wm. HOME FARM, Center Valley, Pa.**

POLAND CHINAS—High Class Swine, pure, the big smooth, the big smooth, easy to keep. One young herd boar, 11 months old. **B. F. Moore, Jr., East Fultonham, Ohio**

CHESHIRE—Gilt and sow bred, pigs for mature stock of best type and home bred. Prices reasonable. **G. E. Smith, Castle, N. Y.**

350 Big Type Mule Foot Hogs—Fur sale, Champion Herd. John H. Dunlap, Williamsport, Pa.

MULEFOOT HOGS
Oldest breeder in the State. Registered stock for sale. **Wm. L. Jones, Williamsport, Pa.**

Registered Chester White Pigs and Jersey Bull Calves—For sale. **J. A. Boak, R. D. 4, New Castle, Pa.**

Grange

FARMERS' CREDITS

Much is being said at present about providing ways by which the farmer can more easily secure loans of money and for longer time. The President has recently called attention to the duty of Congress in this regard. The present national banking laws seem to favor the manufacturer and the commercial man. Bonds and certificates are deemed better security for a loan than a deed to a farm.

I heard a Pittsburgh banker in a speech not long ago, when talking on this subject, make, in effect, the following statement: In considering a request for a loan, the banker always considers three things: the man, the business, and the man's holdings. At present, he said, farmers on the average are not considered good risks for the reason that they are not prosperous; that they do not manage, in producing and selling, so as to give any reasonable assurance that they will be able to pay promptly.

I have asked other bankers, since hearing these frank statements, their views on the subject, and find it is held by many of them. They hold farmers to be as honest and as willing to pay as other men, but the opinion prevails, possibly gained by experience, that they are simply unable by reason of their failure to "make good" in their business.

If we grant these opinions to be well founded, where is the trouble? What is the remedy? Is it not that the average farmer needs to know how to produce more at a less cost and how to sell it at a greater profit; not at higher prices to the consumer, but by a means that will leave for himself a greater part of the selling price; to reach the ultimate consumer quickly and cheaply without the desolating intervention of unnecessary middlemen.

Any scheme that will enable the farmer to borrow money more easily, without an increased ability to pay back, will hinder instead of help in the work of upbuilding agriculture. Only those who can profitably use money are benefited by loans, and it seems to the writer that the two problems demanding immediate, co-operative attention are increased economical production and economical transportation and distribution. They must go together. "Unless each without the other."—R. P. Kester.

OUR NATIONAL GRANGE MASTER

National Master Wilson has been spending his vacation (?) in New England and addressing Field Day audiences nearly every day for a month. He is an entertaining speaker with a message that rings true and clear.

Speaking of the tariff discussion, he says the grange does not intimate that protection, tariff for revenue, or free trade is best for the country; but it does insist that so long as protection is the policy of this country, the farmer should be protected the same as any other interest. The product as it leaves the farm is as much a finished product as that which leaves the factory. There is no reason why we should have free wool and protected woollens, as neither is available for use till going thru another process. We have gone on record for some intelligent system of so-called farm credits, but have endorsed no particular system.

Mr. Wilson's record as a farmer and granger is a good one. He has a large farm near Peoria, Ill., and has been interested in agriculture since boyhood.

He was one of the originators of the Farmers' Institute System of Illinois, and was its first superintendent. He became a member of Magnolia Grange No. 179 when it was organized, and has held membership there for 40 years. In 1885 he was elected lecturer of the Illinois State Grange, which position he held for 8 years. He was then elected master of the state grange, and held that position for 16 years, at which time he was elected lecturer of the National Grange. From that position he was elected to the office of the National Grange, and in that capacity he is achieving notable success. His coming to office was at an opportune time, and served to allay much of the friction that had arisen from the preceding years. He has a well-defined grange policy, is firm in his convictions as to the advancing of that policy, and has only the highest interests of the great Order of Patrons of Husbandry at heart.—D.

McSPARRAN'S GRANGE NOTES

The Road Bond Issue



At a meeting of the legislative committee of the Pennsylvania State Grange, held at Harrisburg, August 15, action was taken on the road bond issue. We are convinced that if the people of this state are informed as to the facts upon this subject, they will follow the splendid lead of Ohio and repudiate any bond issue. From time to time this outline of facts will be enlarged upon, but we feel that at this time a terse statement of the grange position would help unify feeling against this greatest steal of public funds ever attempted in this state. Following is the statement prepared by the committee:

There is no question as to the necessity of good roads. The grange has been a pioneer in the effort to obtain good roads. But the position that the grange has taken is for the benefit of all the roads and not for just a small percentage of them. The farmers in general are opposed to the bond issue for the following reasons:

First.—In this whole contention the fact has been overlooked that there is no such thing as a permanent road. Lewis R. Spear, president of the American Automobile Association, says: "Water-bound macadam roads, which for practically a century have been adequate for the traffic, have now, under the new conditions, become obsolete and their further construction a serious waste of public funds." There fore it is a disastrous policy to spend these large amounts of money simply on experimental operations. Who knows how to build a permanent road?

Second.—We want to know how this money is to be spent. This same highway department that is clamoring for a bond issue has not put out a report since the year 1909. This is not business, if it is not actually dishonest.

Third.—All the money that can be legitimately used for road purposes can be obtained in the ordinary methods of taxation. New York is cited as using bonds for building roads. But Ohio has built twice as many miles of improved roads as New York and has not issued bonds. It will take \$3,000,000 a year to float \$50,000,000 bonds. One mill on personal and corporate property for roads would yield about \$7,000,000. A slight increase in taxation from those who are not paying nearly their share, added to what it would cost to float the bonds, would make a larger sum for roads than the bonds will yield.

Fourth.—The original highway bill had in it a proviso that the money should be distributed proportionately among the counties. This provision has been stricken out, and it is conclusive evidence that this money is to be used for boulevards and not for the whole system.

Fifth.—As to the 9,000 miles of road that the state has taken over, we would say that in many cases splendid dirt roads are being made, only proving what can be done with a scientifically handled dirt road; but we are convinced that if the roads were standardized and the appropriation distributed as the school funds are distributed, the work would be done more cheaply. The plan pursued by the state has demoralized the labor situation in the counties, and has made it so much harder for the farmer to get help in the busy season.

Sixth.—The argument advanced that the corporation will pay for these bonds is an ingenious misrepresentation. The arbitrary division of the classes of property in this state for taxation purposes has led to gross inequalities, and it does not follow that this condition will last until these bonds are mature. The state of Ohio has lately changed its constitution and tax laws to compel all classes of property to pay state and local taxes, and no farmer or real estate owner in Ohio under the law is required to pay a tax rate of more than 104 mills. At any rate, the corporations can shift the tax burden to the consumer, as is shown by the tax on coal.

We appeal to the taxpayers of this state to earnestly discuss this question and not go into debt when the ordinary revenues of the state are ample to meet all demands.

Parcel Post Endangered

An action taken relative to parcel post should commend itself to every granger and the general public as well. An attempt is being made in the United States Senate to repeal the administrative section of the parcel post law. The letter written by the committee can be used by individuals and granges as a memorial to congressmen and United States Senators, especially. Action should not be delayed.

The development of our parcel post system is naturally an administrative work, and the express companies should not be allowed to interfere with it. The Bryan resolution (introduced by Senator Bryan, of Florida) should by all means be defeated. The following letter was addressed to the President:

The President,

Washington, D. C.
Honorable Sir.—The immediate and extensive use that has been made of the parcel post system, lately inaugurated, in spite of the high rates and extremely low weight limit, is proof of the dire need our people had for this kind of transportation, and demonstrates the contention the grange has made for years. Of course, this was to be expected from the use that has for years been made of this sort of transportation in other countries. There is no doubt our present system is new and crude, and that it needs decided enlargement in order to meet the needs of present day business.

We appreciate and approve the use that Postmaster Burleson is making of the administrative feature of the law to readjust the details toward a larger weight limit and a reduction in cost of service. We regret that any effort is being made to destroy this administrative feature of the law, as we believe the details as to zone weights and tariffs are matter for the administrative rather than the legislative department of government. There can be no doubt that if the necessary

changes due to development of the parcel post are left to Congress to enact that many years must pass before we can expect that growth that we have a right to expect and ask.

The resolution introduced by Senator Bryan, of Florida, repealing the administrative section of the law should be defeated. This sentiment is the sentiment of the Pennsylvania State Grange.

A copy was sent to President Wilson and Postmaster Burleson.—John A. McSparran.

WARREN COUNTY POMONA MEETING

Warren County Pomona No. 10 will meet with Farmington Grange, at Lander, September 4 and 5. Formal opening at 1.30 P. M.

Some of the questions for discussion are: No. 1, Why do so many farmers fail to make a success? No. 2, What is most needed to strengthen the farmers not now prosperous? No. 3, Why are farmers so slow in combining for mutual benefit? No. 4, Shall we, as grangers, support the constitutional amendment providing for \$50,000,000 road bond? No. 5, Which is the more profitable, the small farm worked alone, or a large farm, with hired help?

Lecturer's conference will be under the direction of R. E. Green. Woman's Hour will be conducted by Mrs. Lella Trisket. Young People's Hour will be in charge of Miss Rose Esperson. A fifth degree session will be held Thursday evening for initiation and other fifth degree business. Farmington Grange will meet visiting members on the first day at Russell. A large attendance desired.—Alice Bumpus, Lecturer.

POMONA GRANGE MEETS AT GRAMPIAN

Clearfield County Pomona Grange held a most successful meeting of three sessions on August 14. It was well attended, the right at mid-autumn harvest. All came with well-filled baskets, from which lunch and dinner were served to the happy throng of patient tillers of the soil. The program prepared for the occasion was a good one and was dispensed with in a rapid and efficient manner, evincing the fact that the heads, too, were filled as were the baskets. Subjects discussed were: The Reading Matter of the Farmer, The Tariff and the Farmer, Does Education Tend Toward Discontent on the Farm? The Wife's Share. Other items of interest were brought out in the question box. At the evening session music and recitations in lively succession occupied the time until the lecture of the evening was rendered by R. P. Kester. A class of 22 was initiated in the fifth degree.—D. H. W.

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Philadelphia, Pa., August 30, 1913.

Some time ago we invited

The Road readers from all parts of

Bond the state to give us their

opinions on the proposed

road bond amendment. We have re-

ceived a large number, which will be

published. We want to hear from

more. Our purpose in calling out this

discussion was to stimulate interest and

direct the attention of all voters in

country districts to the vital features

of the measure and what it will mean

to the taxpayers and all those genuinely

interested in good roads, economically

built. On a measure of this character

the indifferent vote is as dangerous as

the misinformed or prejudiced vote;

and this issue is of such vital impor-

tance that there should be no indiffer-

ence as to its merits. The measure

is being pushed largely as a farmers'

issue. For many years the farmers

were alone in the struggle for good

roads. They did most of the work and

they paid the bulk of the costs. They

built as they could afford, but being in-

terested both as users and as taxpayers,

they have worked on the safe side.

There is a point at which road building

ceases to be an economy, where the

costs outweigh the benefits. So far,

this dividing line has been observed.

But with the development of the auto-

mobile there has come increased in-

terest in road building; and, as in sev-

eral other instances, highly-interested

assistance is coming to the farmers' aid.

It has suddenly been discovered

that it costs the farmer too much to

Pennsylvania Farmer

August 30, 1913.

improvement, dangerous as a function of state government and insincere in its ultimate purpose. We shall attempt to give a detailed analysis of the issue in future numbers. In the meantime, it should be taken up at farmers' gatherings and organizations for careful consideration.

The new rates in parcel

post went into effect on

August 15. Within a

week of that date it was

evident in many of the large cities that

the volume of parcel shipments would

be more than doubled in the first month

of operation under the rate reductions.

At Philadelphia, the increased number

of parcels shipped in the first week

after the change was made averaged

about 1,000 parcels per day. It is of

interest to note that over 75 percent of

the parcels sent from this city go into

the first two zones. This heavy in-

crease in business demonstrates the de-

mand for the service, and most of it is

entirely new business. It is sometimes

assumed that all the parcel post trans-

portation is taken from the express

business. Investigation proves, how-

ever, that a large proportion of it is

new business that would not exist were

it not for the opportunities offered by

parcel post. The record of the first

year of the service gives promise of ful-

filling the most extravagant claims

made for it. A continuation of the

present volume of business alone should

convince Congress that a general un-

hampered parcel post at the lowest

rates possible consistent with good

management and service is needed. It

is making splendid progress. Any in-

terference with its future development

can only be construed as an effort to

favor the express companies at the ex-

pense of the public.

Tariff

Referendum

together with the initia-

tive and more recently

the recall, has frequently

been branded as dangerous, impractical

and revolutionary. Theoretically, it

provides direct government by the peo-

ple. Those who profess to see grave

dangers in referendum government are

those who hold the work of government

officials under existing conditions to be

superior to the judgment of the peo-

ple as represented by their votes.

Naturally those who are in power, or

those who are in close sympathy with

the work of an administration, are most

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election. No one takes this resolution seriously, even with the backing of the American Protective Tariff League, because it has become apparent to all that the present administration proposes to make the new rates effective in spite of all opposition. The referendum resolution and the League's support of it are of interest mainly as showing the change of conviction that may come with change of pressure.

The difference between suc-

cess and failure on the

farm is often dependent on

ability in marketing. It

has frequently been observed in recent

years that the great bulk of effort in

behalf of the farmer is expended with

the one view to increase production;

and that the more important features

of marketing and increasing profits

have been neglected. The improvement

of general marketing conditions and

the development of a system that will

do away with the abuses and wastes in

present systems are questions of national

concern. As such, the solution must

be worked out on a broad, compre-

hensive basis, in which the individ-

ual producer can exert but little in-

fluence except as one of a large body

of producers working toward a com-

mon end. But aside from this move-

ment, in which every farmer should

give assistance, there are opportunities

in the local market and under local

conditions which every prudent farmer

will take advantage of. His success is

a financial way, and the measure of his

ability as a farmer, will depend upon

his foresight in making the best use

of these local conditions. Last week

we visited the fruit farm of one of the

leading growers of this state. There is

a crop of about 30,000 baskets of

peaches now being harvested. The

bulk of the crop, of course, is going to

the large market centers thru dealers

with whom contracts were made early

in the season. The bulk is sold at a

fixed price for standard grades, in the

usual way, and the soft fruit and lower

grades are sold in the local markets at

fair prices and with very little loss.

The quantity of soft peaches is a dif-

ficult factor to control, owing to in-

fluence of weather, uncertainty of hired

help, etc. The loss of such fruit is one

of the big losses in the business, and

marketing of it often determines the

profits for the season. And it is here

that local markets must be used. The

grower mentioned first has an arrange-

ment with a local canning company of

limited capacity to take a certain num-

ber of peaches per day. The price is

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worked at a good profit, and the loss is reduced to a minimum.

STATE CAPITAL NEWS

Medical Inspection of Children.—

Medical inspection of pupils in schools

of the fourth-class districts of the

state will be started very soon after the

opening of the fall term. The organiza-

tion of the inspection has been perfect-

ed, having been well tried out in 1912,

when three counties were inspected.

Under the school code of 1911 the state

is required to make medical inspections

of public schools in fourth-class, or

those of under 5,000 population, and in

such third-class districts not otherwise

provided for. During 1911-1912 the de-

partment's officers inspected 145,000

children in 730 districts, and last sea-

son fully 305,000 were inspected. This

year it is planned to make inspections

in 1,531 districts, including over 420,000

children. The work of Pennsylvania in

this respect is attracting widespread at-

tention. The inspection is almost ex-

clusively rural, and the youngsters are

given the advantage of observation and

report, especially in such subjects as

vision, hearing and breathing, which in

many cases have led to better physical

development. No branch of the state

work gets closer to the homes and peo-

ple of the country districts, and its per-

fection will, in due course, have valu-

able results. That this is recognized is

shown by the abatement of opposition to

it in the last year.

Fertilizer Inspection Begins.—The in-

spection of fertilizers being sold in

Pennsylvania has been outlined for the

fall and winter by the state department

of agriculture, and altho the appropria-

tion for the work has been considerably

reduced, it is believed that the scope

will not be reduced. In recent years

the cost of fertilizer licenses has more

than paid all expenses of the sampling,

traveling expenses and analyses, and it

is gratifying to note that there has

been steady decrease in the number of

presentations brought for misbranding,

adulteration and other violations of the

law. The work will be conducted under

the division of fertilizer control, as

heretofore, and the results printed in a

bulletin to be issued during the winter

or spring for general distribution.

Pennsylvania Farmer

August 30, 1913.

Million More For Roads.—The state highway department is making prepara-

tions to distribute a million dollars

among the townships of the state

within the next month or so. This

money will be a part payment on the

account of the bonus promised to the

townships collecting road tax in cash.

The state having obligated itself to pay

50 percent of the road tax collected in

cash in order to do away with the old

system of working out road tax. This

payment will be made for 1912, a quar-

ter million having been paid out some

time ago for 1911. What the legislature

should do is to ascertain from the high-

way department just what Pennsylv-

ania is morally bound to pay to the

townships abolishing work tax and then

make a lump appropriation to meet it.

In all the legislative appropriation juggling,

no chapter is more provoking than

this 50 percent bonus. Several

years ago the law was passed promising

the bonus to all townships abolishing

the work tax. A number did so, and the

legislature determined that all road

tax must be paid in cash. Yet not in a

single session has enough money been

appropriated to pay the full amount due

to the townships. It has been syste-

matically dodged, and it would take

\$1,000,000 to meet all arrears and

\$2,000,000 to care for the next year.

State Aid Building Next.—It is im-

probable that the state highway de-

partment will undertake the building of

any more sections of main highway this

year. The reduced appropriation does

not permit it, and much reconstruction

will have to wait. Applications for

The Turn of the Road.

By Charlotte Bird.

The gate swung to and the latch fell into its place with a sharp click. Mrs. Mason, who stood by the kitchen table in front of the window washing dishes, heard it and glanced up curiously from her work. "Ah, it is Ralph, poor boy," she said to herself, and she gently sighed, for after three years she was still unable to reconcile herself to the hard circumstances by which her boy had lost one of his legs.

"He has been down to the mail box," she went on. "I wonder what kind of news he got this morning. A body can hardly tell by just looking at him, and somehow I don't like to ask, either."

She watched the youth narrowly as he swung along on his cane and crutch towards the house down the worn, crooked path which cut the greensward diagonally into two unequal parts. Mrs. Mason was a flower-lover and this quaint yard was the visible expression of her floral taste. The rough old-fashioned walk was bordered on one side by a long bed of old-fashioned flowers, such as musk, phlox, balsam, poppies, buttercups and marigolds. And now with a gorgeousness bordering upon the immodest they flaunted their brilliancy in the eye of the passerby. The day was still young and the tall oaks of the grove to the east were reaching out in long shadows over the grass whose every blade was jewel-strung. But even now by all its signs, so elusive to the general mind, Nature was giving fair warning that she was about to send a hot day.

Ralph stepped upon the long, old-fashioned porch, shaded at one end by thick growth of Maderia vines trained on strings to the edge of the low-hanging roof. But here, where he would have sat down, the aggressive sunshine lay in a brazen, glaring rectangular patch and the breath of the new day came hot and palpitating. So he penetrated to the cooler retreat of the kitchen.

"Hello here, you rascal Tige," Mrs. Mason heard her son salute the favorite household cat and then saw him lay a caressing hand on the soft fur. The cat yawned and then in the leisurely way of cats offered to surrender his place. "Lie still, old chap; never mind me," assured Ralph. "While I read, I can just as well sit further down on the sofa." Seeing this comfortable trend of affairs, Tige changed his mind, tucked his nose once more into his furry side and resumed his nap.

Mrs. Mason, meanwhile, was rather anxiously noting signs. Her brief study of Ralph's face thru the window had revealed nothing. And now she was weighing the significance of his tone and behavior with a like inability to glean any intelligence. "I s'pose I've got to ask him right out," she decided.

Under the pretext that it badly needed cleaning Mrs. Mason now approached the window near Ralph and with a wet cloth in her thick, work-stained fingers began energetically to wipe the wood-work. "I do declare," she soliloquized, "I believe that it is as hard for me to stand as it is for him." Then summoning up a tone as indifferent as if all morning and all the other mornings she had not somewhat eagerly anticipated the answer to her question, she asked: "Well, Ralph, what news this morning?"

"No news this morning, mother—no letters, I mean."

At this the mother's face assumed a somewhat commiserating expression, so he hastily added: "No news, you

know, mother, is good news."

"Yes, I s'pose so—in your case," agreed Mrs. Mason rather wearily. "Ralph, you certainly are the cheerfulest body I ever see."

"Why, I don't know, mother," and Ralph laughed brightly.

"Then I know. No knocks to your hopes seemin'ly can discourage you. I don't see how you can keep up your spirits so. Anybody else would have give up long ago and let the old cornplanter go to grass."

"Mother," answered the youth solemnly, "I shall never give up my cornplanter—never as long as I live. Why, mother, I can't give it up. The gift of my talent involves responsibility. This work is my duty. I have invented my cornplanter and secured my patent. And now, since I have no money with which to manufacture it, I must find a buyer who can manufacture it for me."

Mrs. Mason had heard all these arguments before. "If you only can," she weakly resumed. "But it has been so long now. How long have you been fussin' with the thing, Ralph?"

"Let me see. I began a year and a half before I got sick and had to have my leg taken off—it is about five years now."

"Five years is an awful long time to have to wait."

"Yes, it is. But I could have shortened the time greatly if I had only had the money sooner with which to secure my patent."

"You have sunk nearly all your school money in it—and after all your hard work," and again Mrs. Mason sighed. To her money was a very important article indeed, and one very hard to win. "You haven't hardly kept enough to buy you decent clothes," she resumed. "But then, your scholars always like you an' you never have to do any whippin' much."

"Yes, mother, patents cost money. Such things always cost work and risk and time—a lot of time. But that is a part of the game. I shall fight it out on this line if it takes all summer."

"Yes, I s'pose you will."

"Why, mother, just think of the other inventors. In comparison with some of the greatest of them I have had an easy time. There was the inventor of the telegraph, He—"

"Yes, yes, you have told me about him many and many a time. I am awful glad that you can get comfort out of your trials, tho I never could squeeze any consolation out of other people's troubles."

Ralph laughed with a merry ha! ha! "Nor could I, mother. But their experiences teach one the rules of the game."

"It certainly is a great credit to you to keep on hopin' this way in the face of everything. But they say the darkest hour comes just before the break of day."

"Why, mother, there is no great credit about it. I can clearly see the outcome. Success is headed my way as surely as tomorrow's sun is to rise."

"Maybe it is—if you have that feelin' about it. Somehow I have a good bit of faith in a body's feelin' about such things. They are a kind of foresight."

Ralph gazed dreamily down over the hill in the pasture lot, where the sheep grazed. Then his gaze traveled to the woods where the rising breeze tossed the plumelike branches of the trees. "If there is anything in one's feelings,

mother, my success is coming soon, very soon." He hesitated a moment; even

with his beloved and trusted mother he had his deep reserves. Presently he went on: "That was a very favorable letter which the Gerlach Brothers wrote me last week. They are certainly considering the purchase of my patent."

"Yes, Ralph. But if I was in your place, I wouldn't screw up my hopes too high. Then, whatever happens, they won't have to take a tumble. An' as far as the encouragin' letters is concerned, haven't you been gettin' them off an' on for a year or more—ever since you've had your patent. An' what has it come to?"

"I shall not be disappointed," but in spite of himself Ralph sighed. He was but a boy and he was human. This morning his mother was depressing. In a moment he resumed: "When my money comes, I am going to share it with the rest of you. For one thing, I am going to send sister Esther to college and—"

"That is nice of you, Ralph; you never have been selfish. But—I wouldn't say much about what I was goin' to do with my money—not to anybody else, I mean."

"They don't understand."

"No, they don't understand an' their twittin' hurts your feelin's—I see that plain. But mother understands. She knows that you are goin' to come out all right—some time. So, whenever you get so filled up you can't hold in any longer, you needn't bottle up but just come to your mother on' bubble over. An' by an' by you're a-goin' to have success."

A great mother pity filled Mrs. Mason's heart. She sometimes chided herself for thus weakly yielding to her motherly instinct to soothe and so possibly further mislead her dear boy. Would it not have been wiser if she could strongly have helped him to face the truth—the probable futility of his hopes? But what loving mother could look into her son's pale, thin face and utter such annihilating words?

"It seems curious that with all my explanation I can't make them understand," and a momentary cloud of sadness flitted across Ralph's sunny face. He was well learning the tragedy of ascending the chilly and solitary path which leads to distinction—even the he had not yet reached the summit's light. He had found the winning of distinction a transaction which gives nothing on trust but demands full payment in advance.

Ralph went on: "Yes, they all laugh at me. But, blame the luck, I'll show them yet—every mother's son of them. I will not give up; I will succeed in spite of everything. I will not be worsted in the fight. Why can't they also see that the higher the career, the more capital one must put into it—the harder must be the preliminary work and the longer the wait!"

"Well, they just can't see. But, as you say, you'll show them; an' you will, if workin' an' waitin' has any thing to do with the matter."

Mrs. Mason now turned back to her domestic work and Ralph went on silently examining the newspapers which had come in the mail; they were mostly farm journals. He looked carefully thru the advertisements to discover any new firm which might have gone into the business of manufacturing farming implements. To any such he might write and call attention to his invention. Even the Gerlach Brothers, manufacturers of all kinds of farming implements, held out a hope, had not others done the same only to disappoint him in the end? No, he must not rest upon his oars, satisfied with his present resources; he must keep his future in mind and continue to add to his chances.

Therefore, he took his notebook from his pocket and jotted down a new advertisement.

As they discovered Ralph's approach both old people looked up with a pleased expression. His arrival was to them always a note of cheerfulness in the arid stretch of their secluded lives. "Ralph looks real thin an' peaked this mornin'," remarked his grandmother in an undertone.

Before the grandmother had time to answer Ralph hailed them: "Good morning!" and the old people instantly forgot about his pale face. "It is fine day," remarked the boy further and they agreed with him. Wherever Ralph was, the weather was likely to be fine because somehow people did not notice the clouds or found themselves better able to bear the heat or the cold.

The boy, as in their eyes Ralph still was, settled himself in the unoccupied cushioned split-bottom chair of a straight line with the other two and leaned his cane and crutch against the old-fashioned railing of the porch.

"I came over, Granddad, to look at your papers, if you don't mind," and already assured of his grandmother's willingness, he picked one up from the bench which extended along the side wall.

"Ye aim to study the advertisements, I reckon?" asked the old man in a quavering, senile voice.

"Well—yes," Ralph admitted rather reluctantly. He had learned long ago from experience not to take his grandmother into his full confidence as an amateur inventor.

"That there bee of a cornplanter still buzzin' around in yer bonnet, it?" pursued the old man, and he snuggled noisily out beyond the range of the morning-glory vines.

"To be sure," again confessed the youth, without enthusiasm.

"Ye have been a tinkerin' at it a good spell now, haven't ye?" It was time, the old man saw, when somebody ought to discourage this idle dream of a visionary. And he did not begrudge lending himself as an instrument in the good work. His long life, he felt, had

amply endowed him with a patriarchal authority to judge and speak on this as well as any other subject more nearly related to his experiences.

"An' ye have sunk a good bit of money in it—I reckon, a hundred dollars or more?"

"Ye-es," again confessed Ralph in a low voice. He heartily wished that his grandfather would talk about something else. He cast about in his mind for some means to switch off the talk upon a more agreeable topic. The youth thoroughly loved and revered his grandfather. But his talk about this invention was to the discoverer like coarse, bungling fingers rudely handling his choicest and most delicately adusted treasure. How much more than a hundred dollars he had spent on his cornplanter he would never venture to

discuss with his grandfather. In the eyes of this shrewd and prudent old man such recklessness on a mere chance would have been little short of criminal. It would have been altogether idiotic.

"Well, it was yer own money," declared the old man magnanimously and as vehemently as if he had been combating the arguments of some invisible adversary, and again he spat on the hard, smoothly packed earth walk which led around to the smokehouse in the rear. "Ye aint it yerself an' ye had a right to spend it as ye had a mind to."

"It rather looks that way to me," but Ralph's smile was wan.

"A hundred dollars is a heap of money, tho, for a poor boy an' a cripple at that," the old man quavered belligerently on. "An' I don't reckon ye'll ever get a cent of it back out of yer cornplanter an' other inventions. It takes a turrible good head at figgerin' to make money out of inventin' things."

"I guess, granddad, that is about right," and then Ralph fell silent. He had all the delicacy of feeling which goes with the finely strung nervous system. He could not resent his good-natured grandfather's brutal candor, but he felt as if he had received a blow in the face, as if the life were being slowly strangled out of his body.

His grandmother seemed to have a glimmer of the situation for she quickly challenged: "There is no tellin', tho, what may come from a runt," and back of the uncomplimentary suggestion of the words Ralph gratefully divined all the undiluted kindness which had given them birth.

In the, to him, almost endless period of working and waiting, Ralph had had his gray days—a plenty of them; only he did not find it advisable to throw his clouds over other people's heads. And now his grandfather's unhelpful words, added to his mother's unusually depressing language that morning, were for once too much for the brave boy's courage. Suddenly all his outlook came to him as dreary and desolate and his bright hopes of only a few hours before fell to ashes. Could it be that all these years he had been following a mere will-o-the-wisp; was it possible that after all his grandfather's judiciously correct, that his father, brother and sister were justified in laughing him out of a silly aim in life—an aim silly because it was so utterly out of his reach? Was it possible that everybody else had been wrong and he right? Did not such an assumption rather involve a ridiculous amount of egotism on his part? He thought of poor Abijah Williams who had gone daffy over trying to invent a flying machine. But, no, no, it couldn't be that he was in the least like Abijah. And yet—what if they were right? Ah, what then? And there was a nervous catch in his throat and an illness in his whole body.

Never before had the discouraging contingencies of his case so clearly presented themselves to his mind. He could no longer stay there. He must run away somewhere and be alone with his thoughts till he could get things straight in his mind and readjust himself to his world. If he had been mistaken in all these years of work, he must know it now. And somehow he had faith to believe that the truth of the matter would become clear to him.

He made some excuse to get away without betraying his feelings to the old people. Thru the sweltering sunshine he hobbled dejectedly out into the soothing tranquillity of the woods near-by. He sought out his old retreat and sank down on the soft ground with his back against a big oak and tried to quiet his thoughts and give himself up to the influences of the place. Somehow, he was sure that here the light would break in upon his soul. But the thoughts still surged tumultuously thru his brain.

This invention had been a sickeningly long business, and even now there was no visible reward. He could not hide from himself that the weight of evidence rested on his grandfather's side. His father, too, he was uneasily convinced, shared the belief that the time and effort and money had been wasted. "Ralph is an odd dick," agreed the neighbors among themselves. "But being such a cripple, he can't work—can just teach school winters and springs. So to help him pass the time what harm is there in his tinkering around with his empty spools and old clock springs and wheels, which he always keeps in a cigar box in the shed? The fellow is everlastingly whittling at something."

These conclusions, however, or any others which could cast down his spirits, were rarely uttered within range of Ralph's ears. In spite of this laughable weakness of his, everybody enthusiastically liked him; he was so unfailingly cheerful and good-natured and ready to do someone a kind turn.

Presently Ralph's mind grew quieter. He listened to the murmuring of the trees, the cheerful wood notes and surrendered himself completely to the tranquillizing influences of Nature. With Ralph all mental and spiritual processes were rapid. Presently a sweet peace stole over his whole being. Things came to him in their correct relations and proportions, small things small and large things large. The time had been long, to be sure, and apparently without result. But had not the discipline of a steadfast faithfulness to a worthy ideal imparted to his character a definite moral tone? Invention was his work, his duty, his stent in life. Very well, then, he would faithfully do the stent assigned him and let the temporal success take care of itself. The temporal success was not his part, but the faithful discharge of his task. After all, what was his struggle compared with the aggregate struggle of humanity? He would go on and get the moral and spiritual strength and that alone would be the highest success in the world. He merely felt all this; he could not have put it into words. And thus his vision was clarified and his spirit tranquillized.

"And yet," he suddenly knew, "for me life does hold also temporal success. The young Solomon prayed for wisdom and all else was added to his gifts. So will it be with me also."

Ralph now laughed at the fears which only an hour before had so beset him. "What should grandfather, the good old man, know about inventors and the difficulties which they have to overcome? He himself has been a mere farmer with all his worldly experiences clinging close to the earth. He means well but his testimony regarding inventions has no value. Is not my hope

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abundantly borne out by the experience of every inventor worth the name?"

When at length Ralph awoke to this consciousness of the outer world about him, he realized with a start that it must be very late dinner time. He was conscience-stricken when he realized that very likely his mother was worrying about his absence, and that in any case he had put her to extra trouble.

And, sure enough, when he reappeared at the house, the family had left the table. But for once he could eat a meal alone and secure from the good-natured but still trying chaffing.

At first sight of Ralph's face all his mother's anxieties evaporated. There she read a hope revived, a hope of success at hand. But there was something else there which she could not fathom. As she was not of a subtle turn of mind she did not try to analyze it. However, for some reason its presence rejoiced her heart.

It was the keen eyes of his mother alone that ever detected in Ralph any trace of drooping spirits. But she said nothing and he said nothing. Only at the next meal he was pretty sure to find an extra dainty at his plate in the form of a little pie or cake or a choice bit of meat, left over from a preceding meal which, she was careful to explain, it would be a pity to waste by throwing away. On Ralph's grayer days it was really remarkable how many choice things his mother managed to rescue in this way. If she had not begun in his tender years and so gradually and tactfully accustomed him to the practice, Ralph certainly never would have consented to be so mollycoddled. As it was, he never suspected in it any deliberate purpose.

On this particular day she quickly discovered that the dainties, tho they were already by his plate, would not be especially needed. But she drew something out of the oven and filled his plate to overflowing and urged him to eat and never mind if she cleared away the soiled plates.

Ralph had fought too hard for his victory not to endure. Therefore, the next morning when it was about to visit the mail box he was with the serenity of one who realizes that his affairs are continually moulded by a power transcending the mundane. Whatever the mail might bring, he would be given strength to bear it, but life could hold nothing for him which would not be ultimately good. What was truly his, could not always be kept from him.

With quick, confident movements, Ralph swung himself out to the box. He was glad that the postman was gone for there was something about this almost like a religious rite. Like a head each day was picked off the string of time and of each the coming of the mail was to him the event. And this morning the fact came to him weighted with peculiar significance.

He trembled a little as he put his hand into the box. But after all what mattered one more rebuff, if such there must be? Yes, as he had anticipated, there was the letter with the Gerlach Brothers' imprint—a rather thick letter this time, he absently noted. This was probably their final decision.

So many times the poor boy had been disappointed and so used was he to the hope deferred. In spite of himself he turned deathly sick and stood motionless with the letter in his nerveless fingers. How would he feel if this also should inform him that the Gerlach Brothers, having maturely considered the matter, could not see how they could make any use of his invention? But in a moment he had commanded himself. Then his success would be merely delayed and would have to come to him thru some other source. Then

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At first sight of Ralph's face all his mother's anxieties evaporated. There she read a hope revived, a hope of success at hand. But there was something else there which she could not fathom. As she was not of a subtle turn of mind she did not try to analyze it. However, for some reason its presence rejoiced her heart.

It was the keen eyes of his mother alone that ever detected in Ralph any trace of drooping spirits. But she said nothing and he said nothing. Only at the next meal he was pretty sure to find an extra dainty at his plate in the form of a little pie or cake or a choice bit of meat, left over from a preceding meal which, she was careful to explain, it would be a pity to waste by throwing away. On Ralph's grayer days it was really remarkable how many choice things his mother managed to rescue in this way. If she had not begun in his tender years and so gradually and tactfully accustomed him to the practice, Ralph certainly never would have consented to be so mollycoddled. As it was, he never suspected in it any deliberate purpose.

On this particular day she quickly discovered that the dainties, tho they were already by his plate, would not be especially needed. But she drew something out of the oven and filled his plate to overflowing and urged him to eat and never mind if she cleared away the soiled plates.

Ralph had fought too hard for his victory not to endure. Therefore, the next morning when it was about to visit the mail box he was with the serenity of one who realizes that his affairs are continually moulded by a power transcending the mundane. Whatever the mail might bring, he would be given strength to bear it, but life could hold nothing for him which would not be ultimately good. What was truly his, could not always be kept from him.

With quick, confident movements, Ralph swung himself out to the box. He was glad that the postman was gone for there was something about this almost like a religious rite. Like a head each day was picked off the string of time and of each the coming of the mail was to him the event. And this morning the fact came to him weighted with peculiar significance.

He trembled a little as he put his hand into the box. But after all what mattered one more rebuff, if such there must be? Yes, as he had anticipated, there was the letter with the Gerlach Brothers' imprint—a rather thick letter this time, he absently noted. This was probably their final decision.

So many times the poor boy had been disappointed and so used was he to the hope deferred. In spite of himself he turned deathly sick and stood motionless with the letter in his nerveless fingers. How would he feel if this also should inform him that the Gerlach Brothers, having maturely considered the matter, could not see how they could make any use of his invention? But in a moment he had commanded himself. Then his success would be merely delayed and would have to come to him thru some other source. Then

almost frantically he tore the envelope open and took out the letter. His glance swept rapidly over the communication.

Why, could he believe his eyes! Was he reading the letter correctly! Was it some lovely but cruel dream from which he was presently to waken only once again to find himself disappointed! No, no; it was God's truth—God's own precious truth. "She will want to know it right away," was his next thought, and with a shout of laughter he turned and fairly tore over the ground toward home. When he came within sight of his mother, as usual watching at the window, he energetically waved the letter over his head.

"What has happened, Ralphie?" and Mrs. Mason dashed excitedly to the edge of the porch. "What is the matter, Ralph?"

"Oh, mother! mother! it has come—at last!"

"What has come? Speak quick!"

"Success has come—the turn of the road."

"What?" ejaculated the mother, more excited than ever.

"Why, mother dear, they have taken my patent—the Gerlach Brothers. And, mother, guess what they have offered me."

"Guess! Why, Ralph, how should I know?"

"But guess! oh guess!" and fairly drunk with joy he seized her around the waist and tried to whirl her around.

"Don't, Ralph—till you have told me every word of it. Maybe they have offered you as much as three hundred dollars!"

"Three hundred dollars nothing!" scoffed the now successful inventor. "Why, mother!" Could it be that his mother also had all along been underestimating his work? But his joy left no room for any unwelcome thought. "Why, mother, three hundred dollars would be no offer, for my cornplanter, I mean. They have offered me five thousand dollars—in cool cash."

"Five thousand dollars!" and Mrs. Mason's stare betrayed her utter surprise. "Why, Ralph Mason, you must be dreaming!"

"Indeed, and I am not dreaming. If you don't believe me, look here and see for yourself," and to prove his statement he showed his mother the letter.

"Why, Ralph, that is almost as much as your father is worth, farm and all."

"Mother mine, how funny you talk—after all my explanations, too."

They were silent a moment and then Ralph stormily resumed: "Now, best of mothers, what do you want for a present? It is my treat. Will you have a parlor carpet or a set of Haviland china? Or what else? Speak up. Thruout this long struggle you have been my right hand man."

The weight of her son's success struck Mrs. Mason silent. She was trying to take it all in with all its significance.

"And sister shall go to college now," Ralph purred on.

"But what about yourself? You are needy yourself."

"Oh, I am not going to give it all away—not by any means. I shall keep enough to get a patent on that improved wheat binder which has for some time been pestering my brain. But isn't this fine! Whoopee! Hurrah!" and he waved his hat in the air. "Inventing things is the greatest fun that ever was."

Ralph's success was a nine days' wonder to everybody—only they had known all along that he was sure to make a heap of money some day. Even Grandfather Mason had known all along, he stoutly declared, that Ralph had an uncommonly good head-piece.

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Veterinary

(Conducted by W. C. Fair, V. S.) (Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer. Initials only will be published. When reply by mail is requested, it becomes private practice, and a fee of \$1 must accompany the letter. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, would make one of the most valuable medical symposiums a farmer-stockman could obtain.)

Rheumatism.—I have a 10-year-old horse that has a sort of shifting lameness. It moves from fore quarter to hind, and part of time he travels almost sound. I first noticed him limping on right fore leg. I did nothing for him, then he showed lameness in left fore leg. I consulted our local veterinarian, who is not a college trained doctor, but has had good success in doctoring horses and cattle in this section. He gave me liniment to put on shoulder and he soon got over it. Three weeks later he showed lameness in left hind leg and I put on same liniment, but it failed to do him much good. I would like to know what ails him. A. H. J., New Castle, Pa.—I am inclined to believe that he has rheumatism. If you will give him 2 dr. sodium salicylate at a dose in feed, 3 times a day, he will soon get relief. If joints swell, apply equal parts turpentine, aqua ammonia and raw linseed oil every day or two until he recovers.

Thrush.—We have an old black mare that has diseased frogs. The odor from them is very offensive. She is not lame, but I am fearful if her hind feet are not treated that she will soon go sore. From my description can you tell what is wrong? H. R. Millerton, Pa.—She has what is called thrush, a diseased condition of frog, usually brought on by standing in too much wet and filth. Keep her feet dry and clean, also apply enlomet to frog twice a day. In order to rid frog of pus drop on peroxide of hydrogen slowly before dusting on calomel. She should run on dry land. It may be necessary to trim off ragged edges off frog and fill cleft with onkum, taking it out each time foot is dressed. Goitre.—We have a calf, 2 months old, that has two round movable bunches in throat. As we would like to keep her for a cow, we would like to have her cured. She shows no signs of sickness and is growing nicely. J. C. K., Hunterstown, Pa.—Give her 5 grains potassium iodide at a dose, once daily for 10 days, then if these bunches are not some smaller, give this medicine twice daily.

Windgalls.—Knuckling.—I have a driving horse that has what is called windgalls, but they have never lamed him. I would like to know if they can be taken off without leaving a scar. A traveling veterinarian has solicited me to let him take them off, but I hesitate and before doing so thought best to have your advice. I also have another horse that creaks over on left hind ankle. Can he be cured, and if so, what had I better apply? C. E. G., White Mills, Pa.—Windgalls are not easily removed, and it is almost impossible to remove them entirely. You will obtain fairly good results by applying 1 part iodine and 10 parts lard to bunches, 3 times a week. Knuckling is a weakness of ligaments of fetlock joint and light blisters or stimulating liniment is proper treatment. Apply 1 part powdered cantharides and 6 parts lard to joint, once a week. Remember some horses come honestly by knuckling from faulty conformation; they have short upright pasterns, therefore easily tilt forward and over. It might be no mistake to leave both cases alone until cooler weather before you treat them. Have no dealings with a quack doctor.

Itchy Skin.—I have a bay mare that seems to be troubled with a sort of itchy condition of skin; when she has a chance she rubs and must be in misery. O. M., Girardville, Pa.—Wash her twice or three times a week or every day if she persists, and apply a lotion made by dissolving 1 oz. hyposulphite of soda in a quart of water. Wet body twice a day. Also give her a teaspoonful of hyposulphite soda at a dose, 2 or 3 times a day.

Mange.—I have several hogs that have a rough skin, especially on head, neck and shoulders. I would like to know what to put on them. D. T., Greentown, Pa.—Apply 1 part coal-tar disinfectant and 8 parts vaseline to sore parts of skin, once a day. Night is best time to apply this medicine.

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The Man Who Left the Farm.—By "The City Man."

I know that this story will not be popular, particularly with those agricultural writers who were not brought up on a farm, but who paint such highly colored word-pictures of "the lowing herd," "the golden grain," and the "fattening swine." But the story is based on facts, and facts are unlike figures—you can prove only one thing by them. Here are the facts and what they seem to me to prove.

I had just finished reading an article in an agricultural paper about a city man who had bought a farm, and by "scientific farming" made so much money in a few years that all the neighboring "old time" farmers had to put on smoked glasses when they passed his farm to keep from being blinded by the bright light of prosperity. As I leaned back in the office chair and pressed a button to encourage my electric fan to greater efforts, I finally made up my mind to be a farmer. I had thought of it for a long while.

I began a day dream. I would buy a farm, one just like the one on which I spent my vacation in northern New York several years ago. I would no longer work on a salary and waste my life in a furniture factory. I would buy a farm and get back to Nature. I would have a stream on the farm, a beautiful view, first-class buildings and up-to-date equipment, of course, for that was necessary in order to farm "scientifically." I ought to be able to buy a farm cheap, too, for weren't there plenty of abandoned farms in New York that could be bought for \$5 to \$10 per acre?

The farm might not be fully stocked, but I'd stock it with the right kind of cattle—no scrubs for me. Perhaps I could get a farm within commuting distance of the city and still hold my job; but no, I would cut loose altogether from the factory, farm in a "scientific" manner and get rich. I thought how the cost of living had gone up. The farmers were getting all the money, and I, in the city for 10 years, had acquired only a few thousand dollars. I should make the farm pay, of course, for what the other city man had done, I could do. The farm was a factory, and I knew something about factories; and I knew, too, a lot of "scientific" farming to begin with, having already worn out one dictionary reading the bulletins from the agricultural colleges.

Well, I had progressed so far as to be able to smell the "new mown hay," when the office door opened and the farmer with whom I had spent my vacation entered, the one who owned such a farm as I was going to own. I was surprised and pleased. I gripped his hand, as I imagined a horny-handed son of toil should greet a fellow toiler, and in the same breath told him I was going to buy a farm and asked him how he happened to be away from the farm at this busy time of year.

And this is what he said: "I am here because

I sold my farm, and I sold my farm because farming don't pay as well as other work." I looked at him wonderingly. Had my friend gone crazy? Didn't I pay 10 cents a quart for milk, and didn't I remember the four big cans of milk he shipped daily? I smiled condescendingly. I expressed doubt as to the unprofitableness of farming.

My friend smiled also. He said: "Maybe you can figure it out and explain it better than I can, but I know that since I've sold my farm and invested the \$10,000 it brought me in bank stock, paying 5 1/2 percent, and joined the carpenters' union (I always was handy with tools, you know), that with wages of \$4.50 per day, and with the dividend on my stock, I make a whole lot more money than I did while farming, and I work eight hours a day instead of twelve, too. Why, when I worked on the farm the best year I had, I made only \$650 over expenses, after deducting 5 percent interest on my \$10,000 investment; at least, that's the way the agricultural college people figured it out for me. I

opinion was respected in his locality, and who had been accounted a good farmer. I determined I would look into this farm business a little more before I sold my railroad stock and invested in a farm, even tho the railroad business did not look very good, with the manager's talk of expenses going up and inadequate rates for meeting them. Of course, I knew the ex-farmer was wrong, dead wrong, but I would look the matter up and prove he was wrong by his own figures.

So, I took a pencil and paper and tried to figure out three problems: (1) Is my ex-farmer friend right in concluding that the average farmer would be better off to sell his farm, invest his money and work for wages? (2) If this is true, why is it true? (3) If it is true, what will be the outcome of this condition in our country?

Obviously the country can not do without the farmer, and it is a matter of economic history that men, subconsciously, perhaps, but invariably, drift into those walks of life which they find most profitable. A thought suddenly occurred to me: Had the ex-farmer unconsciously hit upon the reason for the drift from the farm and was all this hue and cry of "Back to the land," "stay on the farm, boys," etc., a mere popular fancy?

I took up the first question. In one of his best years, as a farmer, my friend had made \$650 net, plus 5 percent on his invested capital of \$10,000. To arrive at his earnings, compared with a salary, the value of his house rent and the farm products he used should be added. I found on consulting my "scientific farming" library that a thoughtful college professor had already kindly figured this out for me as equal to about \$350 per year. So, as a farmer, this man made, when the weather was good and no live stock died, about the equivalent of a \$1,000 a year salary, plus 5 percent on his investment, and he worked, he said, 10 to 12 hours a day, with his stock necessitating his "being on the job" 365 days a year.

He made, as a carpenter, \$4.50 per day, working 5 1/2 days a week, and he could count on 45 weeks' work a year. So he earned a salary of over \$1,155 per year, working 8 hours a day, with a half holiday on Saturday or double pay if he worked then. Besides, he got 5 1/2 percent on his money invested in banking and only 5 percent in farming. In this way, he earned \$50 more. Well, the man did not appear to be so crazy as I thought. Certainly his figures proved that his carpenter job was 18 1/2 percent more remunerative, 20 to 35 percent better considering the hours of labor, and 1/2 percent better from an investment standpoint.

But, perhaps my friend was a pretty poor farmer, below the average in his section. So I turned again to my "scientific farming" library, and learned that the agricultural authorities who



JUST FINISHED A JOB OF THRESHING. GOOD FARM POWER CONVENIENTLY MOUNTED.

spent the biggest share of the money I got paying hired men \$30 per month and board, and often in a bad season, when the drouth or frost hit my crops, my hired man made more money than I did.

"And" he continued, "lately you can't get hired help no matter what you are willing to pay, and your crops spoil in the field. The hired men all go off and work on the barge canal or state road at \$2 per day, for a nine-hour day, which the governor of the state says should be the lowest wage for any laboring man, or on the railroad, where they can ride around on plush seats in brass-buttoned suits and work 18 or 20 days a month at \$4 or \$5 a day. My neighbor's boy did that very thing, and left the old man alone to work a 200-acre farm. His farm is for sale now. Perhaps you could buy that farm, if you are anxious to go farming; but, as for me, I am glad I'm out of it. I'll invest my money where returns do not depend upon the God-given qualities of the weather, and I'll work where I can get 50 cents an hour or better for eight hours, and where my wife don't have to be a slave to a bunch of cows and hired men."

It was a pretty long speech for my farmer friend, and I—well, I knew him as a man whose

had figured the ex-farmer's earnings had found that in the same section, accounted a prosperous agricultural section, too, the average labor income of 670 farmers, who were selected as representative, was only \$609 per year, which showed that the ex-farmer, with his \$650 per year, was somewhat above the average.

"But, look here," I asked myself, "how did he get that \$10,000 farm if he didn't have any money?" I remembered his telling me that his father had willed him the farm about 10 years ago, and shortly after he had refused an offer of \$7,500 for the property. It appeared that the ex-farmer had made \$2,500 in the last 10 years which he had not counted. Was it possible, then, that all farm property had increased in value in that length of time, and that he made this \$2,500 on a general rise in land values and not on what he had saved and put into improvements? I took up the United States Census Report. I found that in his county all farm property had increased in value 27.6 percent, so evidently he made no money in that way, for to meet the average advance of the county he should have sold his property for a little over \$10,200 instead of \$10,000, as he had. It looked as tho the ex-farmer was right in his conclusion that the average farmer could better afford to do something else than farm.

So, I undertook the second problem: "Why is this true?" My ex-farmer friend said he spent the greater part of his earnings paying labor, and that the demands for workers on public works, railroads, etc., had so reduced the present supply of farm help that crops spoiled in the field for lack of sufficient help to properly harvest them. If this was true, then the reason must be that the industries he named offered better opportunities to the farmer's hired man than the farm.

According to the ex-farmer, he paid his hired man \$30 per month and board, which I found the same college professor said would be the equivalent of a \$50 per month salary. His hours were from 10 to 12 a day. On the state barge canal or state highway, this man could earn at least \$2 per day, or \$52 per month, and work 9 hours a day. Moreover, I remembered reading in the newspaper how the legislature almost unanimously had passed laws reducing the wages and hours to this figure. The farmer's representatives, then, were voting to have the state compete with him for labor by offering higher wages than he paid.

And why had his neighbor's son left the farm to go on the railroad? I called my friend in the traffic department of the railroad on the telephone. He was the man on whose advice I had purchased some stock. I told him I wanted to know what a man received on a freight or passenger train, as conductor or brakeman, and also his hours of work. He replied that on his road passenger conductors received from \$150 to \$192 per month; trainmen from \$85 to \$108 per month; on freight trains, conductors \$103 to \$108, and brakemen \$70 to \$75 per month. They worked, he said, largely on a mileage basis, consuming from 165 to 210 hours a month, which, on a 10-hour day basis, means 16½ to 21 days a month.

"Pretty good wages, aren't they?" I asked. "Well, the men don't seem to think so," he replied. "They got a 12 percent increase three years ago, but they are threatening to strike now unless they are increased 23 percent." "What is the matter?" I asked. "Are you crowding more work on them?" "Oh, no!" he said. "In fact, their duties will be less because of the 'full crew' bill recently enacted, which makes the railroads in this state alone employ about 2,000 additional men, at

an extra cost of \$2,000,000." "I don't see how you can afford it," I replied, thinking sadly of the recent shrinkage in value of my railroad stock. "We can not," he said, "but the demands of the union apparently must be met, even at the expense of the public. The recent wage increases are one reason we asked the Interstate Commerce Commission for an advance in rates. We need money to build new cars, switches and station and we can't"—but I hung up the receiver; I'd heard all that before, and besides I personally shipped nothing by freight. But I had nearly forgotten, I would have to ship by freight if I bought a farm.

Again it seemed the farmer was to be handicapped. He was going to have to pay higher freight rates, and the railroad was going to offer 2,000 more places to farm hands at wages from 40 to 100 percent higher than the farmer paid, and hours of work 15 to 30 percent less. There seemed to be remarkably good reason why the farmer couldn't get help and why his son left the farm for the railroad. But why does the farmer not make the farmer equally attractive by paying higher wages, I thought. Prices are high. He certainly can afford it.

And then I remembered that the United States Department of Agriculture found by investigation that altho



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prices were high, the farmer received only 35 to 45 cents of every dollar the consumer paid. To compete with other industries the farmer must employ his men thruout the year, and by multiplying 12 times \$50 (the estimated monthly earnings of the ex-farmer's hired man), the sum of \$600 resulted. This was just \$9 less than the average farmer's yearly labor income in the section from which my friend came. In other words, if the farmer increased his hired man's wages to a point where he could successfully compete for labor, it would pay him about as well, or perhaps better, to be a hired man, because then he would get his pay without investing capital and without regard to weather conditions or depreciation of his equipment.

The reason, then, why the man who left his farm couldn't get hired help was that he could not afford to compete for labor with the state, and with the large corporations and with the railroads. It was better for him to go out of business, because labor was too expensive and because he received such a small share of the selling price of his product.

I sharpened my pencil and attacked the third problem: "What is to be done of the average farmer, and consequently the consumer?" The problem is still unsolved. There are so many different questions involved, and one

leads to another in such an unexpected manner. I once thought I had solved it. I reasoned this way: If the railroad employees, thru a union, and the state legislature because of a union vote, can raise the price of their product—labor—to a point where it received more than it could earn in a business such as farming (where wealth is produced, not bartered), why should not a farmers' union be formed to raise the price of their product to a point where they can stay in business?

The editor of an agricultural paper says it's impossible. The farmers will not remain united. But let us assume that it eventually comes to a point where it can be done, where the farmer feels he has economized in his methods of production until the only way left for him to gain a living as a farmer is by joining the farmers' union and boosting the prices of his product. Let the farmers form a union and what then would happen? Would that farmers' union be a combination in restraint of trade, punishable under the Sherman law, as the so-called Sugar Trust was for boosting the price of sugar? And, if so, why should not the union that boosts the price of labor, or acts as a combination in restraint of trade, resulting in an increase of freight rates, be punished for violations of the Sherman law? To be sure, Congress and

conditions necessitate labor being paid according to its efficiency instead of its demands.

Until then we will have no increasing numbers of farmers and the efforts to induce the city man to return to the farm, or the country boy to remain on the farm, will be of little avail. The city men who do return will stay while their money lasts, and the country boy will stay until he sees an advertisement for his services at more money and shorter hours. When that point is reached, however, more men will engage in farming, for the very good reason that it will be more profitable for them than some other enterprise.

In the meantime, I—well, I have not forgotten that odor of new mown hay, but I am still undecided about buying a farm. I want, first, to be sure I can put in practice those methods which the most successful farmers use. Unless I can do so, I believe I had better wait until farmers as a class co-operate to get higher prices for their products and no longer look on with apathy while their legislatures pass laws to make more difficult their competition for labor—the most expensive item of the farm today.

SEEDING IN FALL

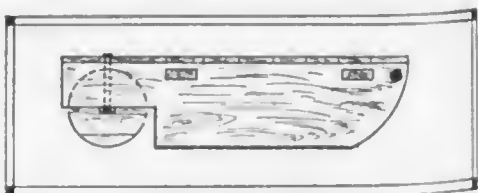
"Is it possible to seed in the fall with good success on a piece of land that has been left without seeding by a former owner? The soil is sandy, with a tendency to gravel, and is in rather poor condition. I have a little manure that I can apply."—Reader, Ontario Co., N. Y.

Seeding in the fall is a very good practice on our farm. It is not so certain that clover will amount to anything, but timothy and red top usually succeed. I would not advise the seeding without the manure at any time. It is quite possible that time would be of benefit also. It might not do any harm to put in a little alsike and red clover, or the clover can be sown in early spring, either before or soon after the frost is out of the ground. This might be the surest with the clover.

Be sure that the soil is well prepared, as a good seed bed is absolutely essential. There will be little growth without some rainfall. I would not care to sow later than September in this latitude, and August seeding might be fully as well if there should be a little rain.—H. H. Lyon, Chenango Co., N. Y.

A CONVENIENT SLED

The accompanying illustration shows a side view of my sled with wheels under it. It is used for many purposes, such as hauling harrows, plows, etc., to and from fields; manure from stables and other heavy jobs. The wheels are about a foot in diameter and are solid two-inch plank with iron tires. They are fastened to the axle, which is a



A CONVENIENT SLED.

piece of hardwood, three inches by three inches. The axle revolves in wooden boxes fastened to each runner. It will be seen at once how the draft is reduced by the aid of the wheels. When it is pulled, the front is somewhat lifted and the main weight rests on the wheels. While going down hill the weight is more on the front, and bearing on the runners, keeps the sled from running into the horses' legs.—C. R. Bashore, Berks Co., Pa.

Our Farm Counselor

By R. P. Kester, Penna. Farm Advisor on Soils and Crops.

Note.—Our Farm Counselor Department will be made a regular feature of Pennsylvania Farmer. It is opened for the use of all our readers, for the discussion of such problems in soil and farm crop work as they may meet with in their general farm practice. Mr. Kester is so well known thruout Pennsylvania as an authority upon these subjects that he requires no further introduction. To our readers in other states, we would say that Mr. Kester has fully demonstrated his ability as a practical farmer and a leader in farm practice. He took over an old, "worn out" farm some twenty years ago and by the application of approved methods and careful management he has brought it back to a high state of fertility and has made it pay its way in the rebuilding. His work as a practical farmer, and his ability to instruct others, as demonstrated in many years of farmers' institute work, has led to his employment by the Pennsylvania Department of Agriculture as State Advisor on Soils and Farm Crops. He will be at the service of our readers thru our Farm Counselor Department. Inquiries may be addressed to this paper or direct to R. P. Kester, Newtown, Pa.

Introduction

In taking charge of this new department of Pennsylvania Farmer, I am conscious of the limitations of one who assumes to answer questions or give advice on farm problems at long range. There is probably no other business in which local conditions and environment are so variable as is the case with farming.

However, there are certain general principles essential to success in agriculture that obtain in nearly all cases, and it is to these principles we shall call attention from time to time, and about which we invite your questions. There is enough knowledge already well established to change the results on many a farm from loss to profit if these known principles were applied in the management of the farm. Many things that were unknown or unsettled a few years ago have been either proved or disproved to be good farm practice, thanks to the good work of the experiment stations, backed up by intelligent farmers' practice.

The successful farmer of today does not sneer at "book-farming." Whatever may have been the value of much that was printed years ago, and that deserved more consideration than it received, the up-to-date farmer has and needs the latest books and best farm papers he can secure.

While the farmer has other problems than the increasing of production, the low average yield per acre and the lack of anything to sell on many farms bear evidence that the knowledge of how to produce more at less cost is a vital need. How to increase returns by good farm management, with the same or less labor and expense shall be the purpose of this department. To this end we invite your questions on soil improvement and soil management, crop rotation, cover crops, alfalfa, lime, fertilizers, etc.

Yours for success,
R. P. KESTER.

The Wheat Ground.—When this issue of Pennsylvania Farmer reaches its readers, the fall seeding season will have begun. Are you sure the ground

is ready? Is the soil fine enough, firm enough, and moist enough? Next year's crop depends largely on these three conditions. It will pay to harrow and roll and harrow until you have them right. This is of more importance than the kind of fertilizer used. The writer's grandfather used to say that he wanted the ground harrowed until he was sure a horse's foot had stepped on every square inch of the field. He probably did not know why, but he raised good crops of wheat.

Cutting Weeds.—Observations in travel would indicate that a great many farmers neglect the all-important practice of clipping their stubble fields at this time of year. Weeds could be eradicated more readily if they were cut before seed has ripened. If clover has been sown in the grain, it is benefited by clipping. Again, this material puts a much needed mulch upon the ground. If it has not been done, do it now.

THE FARM HOME OF BOB SEEDS

The accompanying illustration shows the farm home of Bob Seeds, one of the most widely known farmers in Pennsylvania. The barn is not shown in the picture. When Seeds went on this farm, a number of years ago, it was so poor that a disturbance could not be raised on it, and the last man to move off of it before Bob bought it had to



HOME OF BOB SEEDS, HUNTINGDON CO., PA.

haul his young stock off on a sled. Of recent years Mr. Seeds has sold hundreds of bushels of the soil off that old farm at \$1.50 per bushel.

One day Bob went over to the station, which is across the Juniata River, and just under the bluff upon which the camera stood when the photo was taken, to take the train. While waiting he sat down on the station steps by the side of a stranger who was waiting for a train for Pittsburgh. After surveying the scene before him for some time, the stranger turned to Mr. Seeds and asked: "What kind of a public institution is that over there?" Bob replied: "That is not a public institution; that is a private property."

"Well," remarked the stranger, "when we see so many whitewashed fences and things so slicked up, we always think of a public institution of some kind." After a few minutes the stranger again turned to Bob and said: "That must be awful poor land over there." Seeds replied: "Well, I am not so sure about that; I know the man who lives there and he is shipping that soil all over the country at \$1.50 per bushel." The stranger looked at Bob and replied: "Say, I am something of a liar myself."

Seeds was one of the first farmers in Pennsylvania to try alfalfa growing, and the farm is still producing an abundance of this crop. Mr. Seeds' present idea is to grow hogs and feed them largely on alfalfa. He had made

a splendid beginning when cholera wiped out his splendid herd last season. He and his sons are now making a new start along the same lines.

This farm first became famous thru Mr. Seeds' use of cow-horn turnips as a soil improvement crop. He still has great faith in cow-horn turnips and sweet clover as soil improvement crops.

In the living room of the house is a desk, famous all over the land; the desk around which he has raised his family. He says there is more business done and less money made at this desk than any other desk in that county. Above the desk in bold letters is Bob Seeds' motto: "I am an old man and have seen many troubles, but the most of them never happened."

Here lives Bob Seeds, by the side of the blue Juniata, with his family, happily, peacefully and contentedly. The farm above the house is so hilly that he says he took the middle fence out because the hogs fall out of the alfalfa pastures. Mary Seeds, his daughter, is interested in poultry, and has a flock of splendid White Orpington chickens and Indian Runner ducks. The poultry houses are shown in the illustration.—J. T. Campbell, Crawford Co., Pa.

SEED HOUSES AND FARM SEEDS

I have written of the neglected opportunity of the average seed house to

normal place as a soil improver; that is, they make their statement much stronger than the facts warrant; but 3½ give any adequate statement of pens and oats for hay and for soiling; and but 1 house makes a specific recommendation as to variety.

No attention is called by any seed house to the fact that pens and oats furnish an early feed for soiling, that the feed has a high protein value, and that, where used for soiling, other crops for soiling or for hogging down or pasturing can be grown in the same season; or that the field pea can be gotten into grass.

If the seed house is in business simply to sell its seed, there is no duty on its part to advise its patrons of the facts so stated. If it regards its duty as so limited, however, it would seem to be estopped from objecting to state or national departments of agriculture entering the field with definite published advice as to varieties and where to obtain the best seed of them. It is grossly unfair to the farmer to close all avenues of information, one thru negligence and the other thru opposition to "paternalism" and so-called "favoritism." There is serious work to be done, and the seed house is either a worker or an obstructionist.

The information as to the cowpea is much wider; also more inexact and confusing. And not one of the 18 seed houses lists the most modern and valuable cowpea for the north, the Groat. There is enough accurate information lying around loose about the cowpea so that every seed house could devote a page to condensed advice to its patrons which would greatly help them.

When it comes to the soy bean, the plant which shows real adaptability to our northern conditions, and which will eventually replace the cowpea in intermediate districts because of its frost resistance, higher feeding value when mature and its upright habit of growth, the information is even more meagre and misleading.

Two houses list what they call the Early Hollybrook, a variety which, at best, is much later than other equally prolific sorts, and therefore undesirable where it is to be followed by grain; three list the Ito San and Medium Green, varieties which ought to be discarded for others of far more desirable habits; two list the Mammoth Yellow in such a way as to lead the reader to suppose he can rely on a seed crop if he wishes it; and six list the soy bean without any reference to the variety whatever.

All recommend the soy bean as a nitrogen gatherer, but none of them say anything about its value in making fertility where seeded in corn at the last cultivation, or how nicely it fits into our usual system of corn culture and handling. Several of the houses say that the soy bean is not good for hay, a gross and inexcusable blunder; and all of them either directly or impliedly give the soy bean a place of importance secondary to the cowpea.

The sort of thing that goes out in the seed catalogs is not only behind the times, but actually retards work of those who are introducing into the North crops rich in protein with a view to placing dairying and meat production on a more profitable basis. A man without experience, reading these catalogs of up-to-date seed houses, would hesitate long before deciding to use either the Canada pea or the soy bean.

It is high time for the seed houses to get government and experiment station bulletins and post themselves on the value and the varieties of the soil restorers, the legumes; and then to see that their patrons are supplied with the best seed.—Abram Bunn, Bedford Co., Pa.

Horticulture

PLANTING FALL VEGETABLE CROPS

Several correspondents have asked me, "What vegetables can I plant now for winter or spring?" My advice would differ, of course, as the location of the inquirers differs. One is in South Carolina and another in upper Virginia, and what the South Carolina man can do now in the open ground will differ from what a man living in upper Virginia or southeast Pennsylvania can do. But in the milder section of the Middle States near the coast a great deal can be done which most gardeners overlook.

Here in southeastern Maryland I usually make my final sowing of spinach the middle of September, the sometimes I sow the first of October, so that the plants will be large enough to winter and come in for use in the early spring.

Formerly I sowed spinach in rows, after the Norfolk fashion, but some years ago in attending a farmers' institute near Baltimore in the trucking district near North Point, in the late winter, I found that they there sowed the winter crop of spinach broadcast. It has always seemed to me that broadcast sowing was a lazy man's method, but the fields near Baltimore seemed to have wintered so nicely that I concluded to try some spinach broadcast. This did so well and seemed to winter so much better than now I always sow my winter crop thickly broadcast. The crop sown in August for fall use is sown in rows and cultivated, for at that time the crab grass would completely envelop and smother a broadcast sowing. Now I prepare the land well and harrow in a heavy application of a high-grade commercial fertilizer on land that had manure for an early crop and sow the seed very thickly broadcast, working it in with a cultivator. I sow thickly because spinach seed is very apt to have a low percentage of germination, and the dry and hot weather of September is unfavorable to the most vital seed. Then, standing thickly, the plants protect each other in the winter's cold. I sow as nearly as practicable to the middle of September and again the first of October.

At the same time I make sowings of the Norfolk curled kale to take the place of the green curled Scotch kale, if the winter, like the last one, is too hard for the Scotch. The Scotch kale is sown early and set like cabbage, and makes fine broad heads in the late fall. The Norfolk curled kale I sow both in rows and broadcast, sowing the first week in October. In ordinary winters, both the Spinach and the Norfolk kale will thrive in the open ground as far north as eastern Pennsylvania and New Jersey. But last winter seriously hurt the spinach, even at Norfolk, and damaged mine very greatly.

As far north as Baltimore the Wakefield cabbage will winter well in the open ground, if protected by ridges or in furrows. Experiments in the South in setting plants on the north and south sides of ridges running east and west, and in open furrows running in the same direction, showed that the north side of the ridges was better than the south side, but that there was less loss of plants in the open furrows than on either side of a ridge.

I sow the seed of the Wakefield cabbage at any time from the middle of September to early October, making usually two or sometimes three sowings, the object being to get good plants but not ones that are overgrown, as these are more apt to run to seed in the

spring. As one does not know what the late fall weather is to be, it is always safer to make more than one sowing. The winter of 1911-12 was a record breaker here, the coldest in 50 years, and colder than the average winter in south-east Pennsylvania. But while there was loss of plants a goodly number of cabbage plants survived when set in the open furrow and the entire stem in the ground. The stem is the tender part and if exposed is apt to be burst by frost. Such plants are worthless, even if they survive. In cold localities it is safer to set the plants thickly in frames in November.

In my locality quite a trade has sprung up with cabbage plants grown from seeds sown in early February in cold frames. The Jersey planters find that these plants never run to seed, as the open ground plants from the South are apt to do, and millions are now shipped north from here in spring. But any one in a cold locality can winter over the fall-grown plants in a cold frame if they are kept from growing in winter. I usually set cabbage plants in the open furrows at any time in November.

Cauliflowers I grow only in frames. The seed are sown in September and the plants are set six to a sash in a



PICKING CANTELOUPES ON REPP FARM, GLOUCESTER CO., N. J.
Careful Grading While Picking Insures Quality.

heavily manured cold frame. The space between them is filled in with Boston market lettuce. This is cut out during the winter, and by the last of February the cauliflower plants are pushing up against the glass. They are then gradually hardened to the air and the frame removed to another location for spotting out the tomato plants.

The double-glazed sashes I use keep out all frost in well banked frames, and I head lettuce and grow radishes and beets all winter. Soon after the middle of September and up to the middle of October sets of the Norfolk Queen onion can be planted in the open ground. I plant them in rows 16 inches apart and rather thickly in the rows, as we thin out early in spring for bunching green, and often have them large enough for this purpose in February. The sets are planted in shallow furrows and covered, and they start at once, and as the weather gets cold a furrow is thrown to them from each side with a wheel hand plow, as a winter protection. This earth is pulled away in spring, after hard freezing is over, so that the bulbs form on the surface. These are planted solely for green onions, for they are apt to run to seed in spring.

The yellow potato onion can be planted at the same time. This onion is always grown from sets, as it makes no seed but increases by offsets. It comes in ripe early and usually brings a good price before the northern ripe crop comes in. But it is not a good keeper.

I try to have my late cabbages head in November, as heading this late they

keep better. Various ways have been tried for keeping cabbages in winter. In this climate one of the best ways is to set the plants closely in furrows side by side, filling the soil up half around the head and then covering the whole with green pine boughs. Another way is to make a circular platform of earth and lay the cabbages all around, with the heads out and the stalks covered. Then another layer of earth and another row of cabbages, gradually building up a shock and finally covering it with green pine boughs or straw. Others turn the head upside down in furrows and heap the soil over them. From here southward the late cabbages can be kept where they grow by bending them over with the head to the north and banking the soil over the stalk and lower part of the head thickly. They are turned to the north so that the winter sun does not shine on the exposed top of the head. In ordinary winters they keep very well in this way.

Salsify, parsnips, carrots and beets that are grown late I simply let stand in the rows. The carrots and beets have a furrow thrown at each side of the rows as a winter protection, while the salsify and parsnips need no protection. In the latitude and climate of

Keeping the apples in piles or packages in the orchard before storing, or delays in transit, or at the warehouse before they are placed in storage, therefore, cause the fruit to ripen and diseases to spread, and the apples may already have commenced deteriorating when they enter the warehouse.

The importance of storing fruit immediately after picking is greatest in the warmer apple belts of the country, tho it is equally important in the northern apple-growing sections when the fall months are unusually warm.

In handling the apple for cold storage the ideal is reached when the fruit can be taken directly from the tree to the warehouse. So far as the fruit is concerned, a similar condition is approached when it is shipped to a distant warehouse in refrigerator cars, or the ideal is attained in those sections or seasons in which the picking and handling of the crop occur in cold weather. It may not be practicable for the apple dealer who is located in a distant city to store his fruit in warehouses situated near the orchards, nor is the local warehouse advisable in sections where there are inadequate facilities for transporting the fruit to distant markets during the winter. As a general rule it is to the mutual interest of the owner and the warehouseman that the fruit be stored where it can be watched carefully through the season by the owner, as the warehouseman is responsible only for the proper management of the building and its contents, and not for the ultimate condition of the fruit.

A system of warehouses located in the orchards and managed by growers, or operated by companies in nearby towns, would reduce some of the difficulties with which the growers in the warmer apple belts have to contend, and would thereby give greater stability to the industry in those sections. There can be no question, from the standpoint of the keeping of the fruit, of the advantage of a warehouse located near the orchards, but its usefulness to the business as a whole depends not on the keeping quality of the fruit alone, but on the larger question of adaptability to the present requirements of the apple trade.

The same variety of apple may vary widely in keeping quality when grown under different conditions. The apple is affected by its geographical environment, by the type of soil, by the condition of the trees, and by other factors connected with its production. It is probably safe to say that an environment which causes the fruit to grow with unusual rapidity causes it also to mature correspondingly fast after the fruit is picked. Apples grown on low, rich land or on young trees are abnormally large and are likely to deteriorate sooner than fruit of the same variety from older trees on a more congenial soil. Fruit stimulated by nitrogenous fertilizers in orchards in which the water-holding power of the soil has been largely increased by the incorporation of vegetable matter is often inferior in keeping quality. Similarly, apples produced on quick-setting sandy soils and on the strong new lands in some of the newer apple-growing regions are apt to reach the end of their life relatively early in the season. The grower should recognize the fact that the apple is greatly modified by its environment, and that the inherent differences in each lot are not eliminated by storage treatment.—T. A. Teft, New York.

COLD STORAGE OF APPLES

A large proportion of the difficulties in cold storage of apples is the result of delaying the storage of the fruit after it is picked. The apple ripens more rapidly when picked than it does when hanging on the tree and maturing in the same temperature. The diseases with which the fruit is affected appear to develop more rapidly when storage is delayed. If the weather at the harvest time is warm—that is, if the temperature averages above 60 degrees Fahr.—the fruit matures and the diseases grow with unusual rapidity. On the other hand, if the weather at this time is cool, the ripening process is slower and the diseases may not increase in severity. The ripening that occurs during the period of delay between picking and storing shortens to that extent the life of the fruit in the storage house.

SUB-IRRIGATION FOR BERRIES

A farmer asks if sub-irrigation is feasible for a berry patch where water is in fair supply from an old mill race. The idea of sub-irrigation is a good one. It has not been tried in any consider-

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able extent in this section, there being only one instance of it that I know of.

As the farmer in question has the water supply, and as it is at such an elevation that it can readily flow to the plot that it is proposed to irrigate, the plan seems to be better adapted to his conditions than is usual. The ditches should be nearly or quite on a level and near enough together so that the water can penetrate the whole area. In the instance to which I have alluded, the ditches were some two rods apart, but it is generally thought best to make them nearer. It is well to have these ditches rather deep, although some authorities advise differently. If they are deep enough, cross ditches may be placed at a less depth and the overflow pass on to the ditch further along. A stone trunk is all right, but many advocate the tile drain, and this will doubtless be used wherever tile is commonly used for drainage.

Sub-irrigation is to be preferred, as there is less useless evaporation and the plants are well watered without the soil becoming water-logged. It is not sufficiently in use to make extended recommendations, and should be tried only on small areas at first. I have seen remarkable results from it, but would recommend testing under different conditions.—H. H. Lyon, Chenango Co., N. Y.

CELLAR GARDENS

It is no longer necessary for the gardener to confine operations to the seasons of spring, summer and fall. Even without a greenhouse, and with the ordinary cellar, a considerable variety of garden crops can be grown with very little trouble. These cellar gardens will furnish a much appreciated supply for the table from December to April, and they enable one to utilize the out-of-doors garden for getting crops ready to be forced during the winter in the cellar garden.

At least two of the crops which may be grown in the cellar do not require even the subdued light that may be gained by placing boxes beside the cellar windows. Rhubarb and asparagus may be grown to very great advantage in boxes on the cellar floor, and the rhubarb, at least, may even be covered so that it is in complete darkness. All that is necessary is to dig up, just before the ground freezes, some well developed rhubarb roots which have been in position out of doors for two or three years. These should be left out side for a week or two, or until they have had a chance to freeze solid, and then they may be taken down cellar and allowed to thaw out gradually. After this they are planted in good sized boxes, being embedded in and just covered with ordinary garden soil. In order to keep a uniform temperature and to keep the young shoots clean and free from dust, it is well to invert over the original box another similar box.

For rhubarb a cool cellar temperature is more desirable than a warm one. In my experience just given the temperature ranged from 45 to 50 degrees. After the roots have been forced in the cellar, they may be returned to some out-of-the-way place in the garden to temperate, altho, of course, they will not be ready to take up again the following December.

Asparagus may be forced in the cellar in almost the same way as the rhubarb. A little more light, however, is desirable; also a little deeper planting, and a little higher temperature.

Altho not nearly so large an amount of product is yielded as by the rhubarb and asparagus floor gardens, the cellar window garden may easily be made to yield crops which are very helpful in the furnishing of the table. I have found it a very profitable investment

Pennsylvania Farmer

to have a few zinc boxes made, four or five inches deep, about six inches wide, and in length to fit the cellar window. I fill these in the fall with good rich garden soil and transfer to part of them good vigorous roots of parsley, and to others about three vigorous bunches of chives and three bunches of roots of spearmint. The parsley boxes are watered thoroly and put in the sunniest cellar window. As soon as the plants are in good growing condition, one of the boxes is to be transferred to the kitchen window, where it may rest on the window sill or on brackets below the sill, and be used until the leaves are nearly all pulled. It is then taken down cellar, and another of the parsley boxes substituted in the kitchen. In this way, by keeping three or four such boxes, an abundance of parsley may be procured during the winter, and the leaves will always be fresh and ready at hand.

I have been particularly pleased with the success which I attained with the boxes of chives and spearmint. As already suggested, I planted three good sized bunches of chives and between them planted the roots of mint. As these two crops grow naturally in a rather wet situation, the soil in the boxes was kept pretty moist. Early in the winter the boxes were placed in a sunny window, and during the latter part of the winter had developed a splendid growth of both plants. The boxes were then brought to the kitchen and pantry windows, where they continued to grow and thrive and furnish a most appreciated product through the late winter and early spring. For salad and for many other purposes for which Spanish onions are used, chives are particularly desirable. The fresh green mint furnishes the basis for the most delicious mint sauce, very different in quality from that made from the dried leaves.—T. A. Teft, Chautauque Co., N. Y.

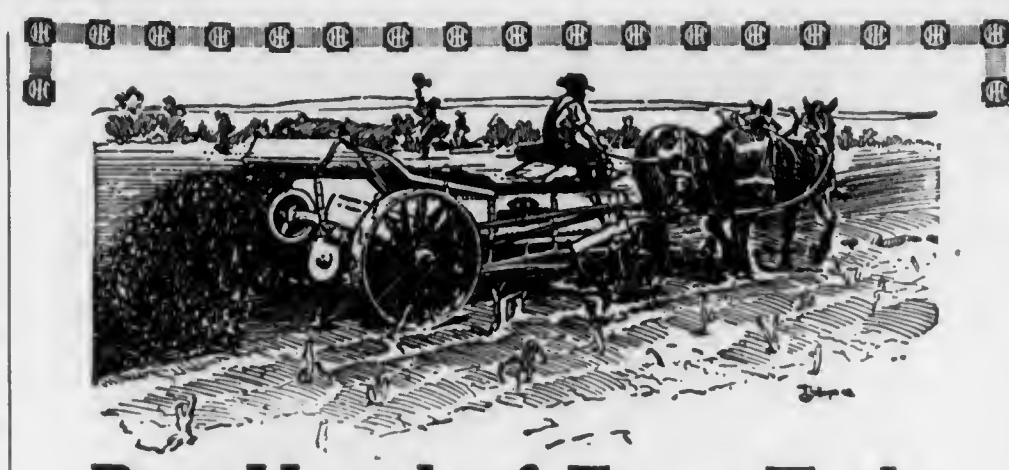
STATE HORTICULTURAL ASSOCIATION MEETING

A meeting of the State Horticultural Association of Pennsylvania will be held at Gettysburg, September 10th and 11th, with the Fruit Growers' Association of Adams County as hosts.

The afternoon and evening of the 10th will be devoted to a short program. Dr. J. P. Stewart and Prof. F. N. Fagan, of State College, will take up problems of fruit growing, while Mr. R. G. Phillips, of Rochester, N. Y., will explain the new apple package and grade law, which was passed a year ago by the National Government and is just now going into effect. Mr. U. G. Border, of Baltimore, who has made an exhaustive study of questions relating to increasing the consumption of apples, by conducting an extensive advertising campaign, will explain just how the work is to be carried out and how it will apply to growers, as well as consumers of apples.

A trip by automobile thru the famous Adams County orchards is being planned for the 11th. Those expecting to make this trip should notify Mr. Chester J. Tyson, of Floradale, Pa., secretary of the association, so that ample provision may be made.

The Fertilization of Apple Orchards.—Dr. John P. Stewart, of the Pennsylvania Experiment Station, has issued Bulletin No. 121 of that station, which is a rather exhaustive study of apple orchard fertilization. The summary of the bulletin gives a good idea of its contents. As both a comparative and a specific study of this subject, the bulletin is of special interest, dealing, as it does, with complete fertilizers and the single elements applied under different conditions.



Best-Hated of Farm Tasks

ON the spreaderless farm the thought of the great heaps of manure piling up constantly in barn yards, stables, and stalls, is a gloomy one. Those piles mean much disagreeable and hard work. Three times every bit must be handled. It must all be loaded onto high wagons. It must be raked off in piles in the fields. Then every forkful must be shaken apart and spread.

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A thorough examination of the I H C spreader line, at the store of the local dealer who sells them, will interest you. Have him show you all these points and many more. Study the catalogues you can get from him, or, write the

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Poultry

A ROOSTING PEN

Having carried the young chickens safely, with more or less loss by the way, then the manifold perils of chick-hood, it behooves the progressive poultryman to provide roosting quarters for his flock. Left to their own devices, the growing birds will choose



ROOSTING PEN IN PROCESS OF CONSTRUCTION.
Poultry Farm of Howard Mitman, Northampton Co., Pa.

for their summer home the coolest and driest limb of the old apple tree; and they will thrive there up to the coming of the cold and cheerless nights of November. In spite of the many discomforts that are their lot in early fall, their eyes will be bright, their plumage glossy and unruffled, and their voices cheery and snappy—true indices of abounding health and well-being. It is the open-air life best alike for birds and men.

The seeds of disease that decimate your flock thru the trying months of winter are often planted in summer and fall, when unwise crowding in poorly ventilated colony coops lowers the vitality of the birds and makes them easy prey for insidious foes. Work presses



FRONT VIEW OF ROOSTING PEN.
Poultry Farm of Howard Mitman, Northampton Co., Pa.

during those busy months, and the young birds, full-fledged and able to care for themselves, receive the minimum of attention, often limited to throwing out to them a measure of grain amply sufficient for their needs. When, at last, an inventory is taken of the sleeping quarters, 200 or more pullets may be found packed in a coop barely large enough for 50. The birds are a panting mass, and it is only natural to wonder how any survive. Most of them do survive, but at the expense of growth and strength. It is not a good thing to allow such conditions to continue.

The most that can be said for the colony coop for late summer and fall is that the birds are sheltered from both the weather and from attacks of ma-

raiders, four-footed and feathered. The trees, moreover, while affording plenty of fresh air, as well as safety from most attacks, are not proof against the visitations of owls; and the man who has tried it does not relish the job of collecting the birds from the trees when the fall round-up comes and the winter quarters are ready. There is a better way.

Set two rows of light posts 10 feet apart, spacing the posts about six feet in the row, and making the rows as long as the size of your flock demands. Make the north row three feet high above ground, the south row five feet. Spike a scantling on the top of each row to serve as a roof plate. It may be advisable to run a row of supports thru the middle to strengthen the roof. A board roof with battened joints will serve. We now have the outlines of a building. Its walls are made of inch mesh wire netting, stapled lightly to the posts; lightly, because it may be necessary to remove the netting before winter sets in, and firm stapling is not required. What is required, however, is some means of holding the netting firmly to the ground, so that undesirable citizens of whatever complexion cannot readily burrow underneath, to your sorrow. A course of narrow boards can be run around the foot of the posts, letting them into the ground an inch or more, so as to leave no crevice where the ground is uneven. Light



END VIEW OF ROOSTING PEN.
Poultry Farm of Howard Mitman, Northampton Co., Pa.

stakes a foot long or less, with a nail driven slanting near the upper end, to form a hook, may also be used. Drive the stake into the ground along the base of the wire so that the hook will catch the selvage and draw the wire close to the ground. Where the surface is not very uneven this way is as good as any.

To build such a pen economically it will be necessary to have two widths of one-inch wire netting. The first course running all around the pen should be three feet wide, if no base board is used; or 30 inches wide, if a six-inch board is used. Two-foot netting will complete the enclosure. The two courses of netting must be tied where they meet, for which purpose twine or light wire may be employed every foot or so; but a better, neater job results by the use of hog rings. They are easily and quickly snapped around the two selvages by means of the tool used for ringing hogs. In fact, by this method two widths of netting may be used in fencing yards, and a neater job result than where five or six-foot netting is used, which is so likely to kink and buckle.

With a gate for the enclosure, and a sufficient number of poles of a size suitable for growing feet, an ideal place for maturing young stock is secured. The safety of the coop is combined with the delights of the trees. When the time comes to house the flock for winter business it is a relatively easy matter to make the transfer. If the

overhang of the roof does not provide sufficient shelter against storms, a board a foot wide can be nailed over the netting and thus protect the birds on the roost. Usually that is not required.—Howard Mitman, Northampton Co., Pa.

POULTRY NOTES

Geese

In selecting an Embden gander the following points should be aimed at: long, swan-like neck; long, straight head; deep orange bill; light-blue eyes; full and broad chest, without any keel; very broad shoulders; long and straight back; deep and broad paunch, and very strong legs.

Geese make their own nests.

Young geese are ready for market about the time the tips of the wings reach the tail, which should be when they are ten weeks of age.

It is difficult to dress a gosling in cold weather, as the feathers set tighter, and in picking them the flesh is apt to be torn.

Every grower of goslings who would produce large birds for the least money, should see that his flock is well provided with an abundance of tender, nutritious pasturage, and promptly supplement any lack in that direction by a suitable supply of soiling crops.

Usually geese are sold alive in market.

The goose prefers a hidden nest.

It is best if the breeding geese are rather thin in flesh.

Everything being equal, it is estimated that four geese and two ganders should produce 100 goslings in a season.

When the fattening season arrives, says an experienced goose farmer, keep the geese shut away from bathing water and fed barley meal, corn meal and beef scraps, chopped celery, and keep in a subdued light for three or four weeks; after which they can be let out for a couple of days to enjoy the use of a pond. They are then returned to clean quarters and fed on barley meal and milk and chopped celery for two or three days, letting them go 24 hours before killing.

Turkeys

Inbreeding will quickly invite failure. Breeding turkeys can be profitably kept up to the fifth year.

Breeders generally will not breed with the same gobbler more than one year unless the same breeding hens are also retained.

In the selection of Bronze turkey breeders the body should be long, and deepest at the center, with a full breast, broad back, strong thighs, and shanks of moderate length. In young birds the shanks are a dead black, but they grow lighter with age, until they finally become of a pink or flesh color.

The hen turkey is more in demand in market than the male.

A medium-sized carcass sells best.

Mashed potatoes mixed with corn meal, alternated with shelled corn, is the most general diet used for fattening turkeys.

When the least indisposed, the turkey will hold its head down between its shoulders and refuse food.

During incubation, a turkey can cover from 15 to 20 eggs, while an ordinary hen can not cover more than half that number. Eight hens to a cock is a good mating, and should result in the production of about 200 young.

Geer says the market turkey should be shorter in legs and neck than is generally the case, and very full in the breast.

If in good condition when put up, turkey hens can be fattened in about three weeks' time, but cocks would require a week or more longer.—Boyd Michael, Atlantic Co., N. J.

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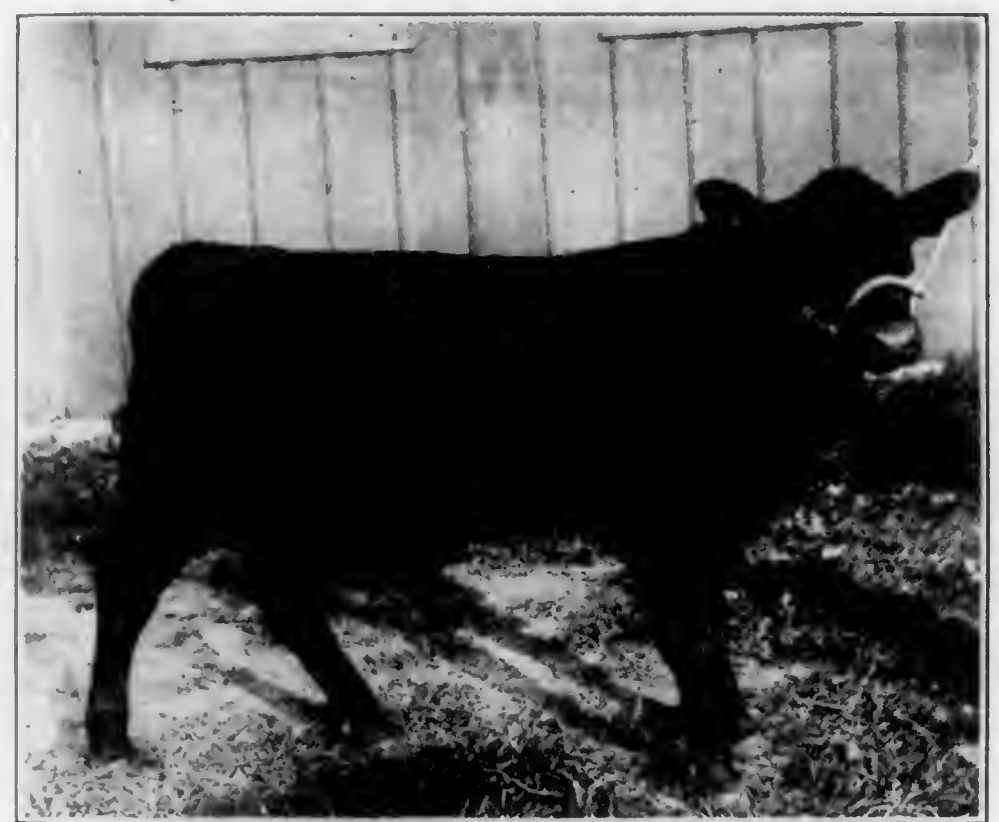
Marketing Corn Thru Live Stock.

By Prof. HARRY HAYWARD,
Director Delaware Experiment Station.

(Condensed from address before Delaware Corn Growers' Meeting.)

Interest in corn culture is rapidly increasing, and the enthusiasm shown by farmers in Delaware, Maryland, Pennsylvania and New Jersey is little less than startling to those familiar with the indifference that previously existed in this section. The farmers of the East are beginning to appreciate how important corn is in the economy of the farm. No other grain is so adapted to the various needs of the farm. It is the basis of the ration feed for nearly all classes of live stock, and it furnishes the chief source of income on many farms. The stalks make a most excellent inter-feed and, when cut or shredded, surpass straw when used as bedding. In brief, corn is as useful to us as was flannel to the Irish

Value of Corn for Pork Production.—A vast amount of wealth has been accumulated in this country by feeding corn to hogs. It is difficult to explain why more of our farmers are not feeding hogs. On the farms of Delaware, there is an average of but 44 hogs per farm, and we can not begin to produce the pork we consume. Corn is worth about 50 cents in the open market today. Pork is worth about 10 cents per pound, dressed. If one bushel of corn makes 10 pounds of pork, it will be seen that the hog affords a much better market for corn than the ear. Where corn is fed to hogs, or even to growing pigs, it should always be supplemented by some nitrogenous concentrate, as wheat middlings, tankage, soy bean meal, or linseed meal, since by combining it in this way the effective-



PUREBRED ANGUS CALF AT DELAWARE EXPERIMENT STATION.
Weighed 300 Pounds at Three Months

ness of the corn may be increased from 25 to 50 percent, which would make it worth considerably over a dollar a bushel.

There are two general ways of disposing of our corn. First, by selling it on the open market, either on the cob or shelled, and, second, by selling it in the form of some finished product, i.e., milk, butter, beef, pork, mutton, poultry or eggs. There is little doubt that the grower receives the least for his product when sold directly at the railroad station. The possibilities for the extended profit lie in the direction of disposing of it in the form of some finished animal product.

Referring first to the most common animals on every farm, horses or mules, we find that it has been conclusively proven in long time experiments conducted at the Ohio Experiment Station, that a ration for draft geldings, and I suppose the same would prove true for mules, composed of corn on the ear and mixed hay was as effective in maintaining flesh and the spirits of the horses, as a ration of oats and mixed hay. On the farm at Delaware College, the basic ration for our work horses and mules, as well as for our driving horses, is corn on the cob, and such hay as we have; the exceptions being in the case of mares in foal.

When the corn ration is fed to mares nursing foals, stallions, or horses or mules that go down under hard work, when some oats or bran may be added to the ration, I am convinced that as at least a large part of the ration for horses or mules in hard work, corn is not appreciated at its full value.

We do sometimes have serious disease troubles with hogs, but with an open range well guarded, plenty of feed and water, together with a wise use of hog cholera serum, the losses from hog cholera can be reduced to the minimum.

Corn for Beef Production.—While the Delaware-Chesapeake Peninsula has not produced much beef for a number of years, it is possible, owing to changed conditions in the West, that raising beef cattle may again become an important industry on many farms. If it does, corn, both in the form of corn silage and as a concentrate, will play an important part.

Within the past few years we have

learned that silage may be used extensively in lowering the cost in making beef. Some of the possibilities of marketing corn thru cattle in the form of beef are shown in some results obtained at the Indiana Experiment Station, where steers that were fed a ration of shelled corn, cottonseed meal and corn silage, returned 96.7 cents per bushel for the corn consumed, which was an excess over market valuation of 37.6 cents per bushel. This not only is a high price for corn, but indicates the possibilities in beef production with feeds largely home grown. Another factor that should not be disregarded in this connection is that of the manure left on the land when the feeding is done. It should be borne in mind, however, that these results were obtained with good cattle, fed by skilled feeders, and that such returns can not be expected unless these essential factors are provided for.

In beef production, it is almost necessary now to raise one's own calves to insure good feeders. Whether this will be done with dual-purpose cows, whose milk is made into butter, or whether feeders will be the calves from strictly beef-bred cows, kept solely for the purpose, is still an open question. With our present knowledge of silage, probably the latter plan is to be preferred, and the calves fed off at the age of 17 to 18 months at weights of from 1,200 to 1,400 pounds. At present prices this would seem to be a promising line of farming.

Sheep Production.—You may question my sanity if I even mention the possibility of a profit from keeping a few sheep on the farm, but my experience with these animals for the past 10 years leads me to believe that there is room for at least a small flock on almost every farm. They are great scavengers, will eat a great variety of feed, both in winter and summer, and by producing two crops a year, one of wool and the other of lambs, they can not fail to pay. In feeding sheep, both in maintaining breeding ewes and in fattening, corn and silage with clover alfalfa, or soy bean hay, makes a very satisfactory ration. About 500 pounds of corn and 400 pounds of clover hay will produce 100 pounds of gain in fattening lambs, possibly less than would be required for 100 pounds gain in mature sheep.

For a flock of breeding ewes, a ration composed of 0.5 pounds of corn, 2 pounds mixed hay, and 2.5 pounds of silage, has been found satisfactory. It will be seen that, in both of these rations, corn silage plays a leading part. In this connection, I may say, perhaps, that the farmers of Delaware overestimate the dangers from dogs in sheep husbandry. It is the expressed opinion of many who have given the matter much thought, however, that the stomach worm kills many more sheep per year than do dogs, and that by a little care and thoughtfulness, the loss from both dogs and parasites may be reduced to the minimum.

In marketing corn thru the medium of live stock, everything depends upon the quality of the live stock and the skill in feeding it. It is safe to say that a large amount of the corn and other feed fed in this country brings absolutely no return other than the manure, owing to the poor character of the animals fed; they are veritable misfits, and their owner should be the richer if he did not own them.

When properly fed to productive animals, corn returns a much larger price than can be obtained when sold direct on the market. But in spite of these facts, feeding is not to be recommended unless the feeder will equip himself for the business, make a study of it, and be willing to give himself up to its demands.

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Philadelphia, Pa., September 6, 1913.

THE ROAD BOND AMENDMENT

Are We Ready for a Bond Issue?

The road bond amendment, upon which the people of the state will vote at the coming election, attempts the first departure from the old state policy to remain free from debt, except to supply casual deficiencies, repel invasion, suppress insurrection, etc. Ordinary business prudence would seem to require that when a state or any business organization make such a complete departure from established policy, it first go over the details of its proposed venture and establish every possible precaution for the safe and economic administration of its new policy. The bond system for financing road improvement has been tried in other states at different times. It has been, or is being, tried in New York, Maryland, California, and possibly other states; while the bond system for financing other public improvements has been operated in practically all of the states. There are certain requirements and precautions in the successful operation of this system, developed in the experience of these states, which should be given careful consideration before the coming election. We have before us a copy of a discussion of the financial features of bond issues for road building, given by the Hon. Lee McClung, of Washington, before the annual meeting of the American Road Congress in 1912. This discussion is based upon the experiences of other states in raising road money thru bond issues. Mr. McClung summarizes the practical conclusions from these tests, briefly condensed, as follows: "Bond issues for road improvement are justifiable only when based upon careful and accurate estimates, issued in accordance with sound business policies and safely guarded by adequate regulations." What is meant by accurate estimates and adequate regulations is outlined as follows: The road systems of the district under consideration should be carefully examined and a census of both actual and potential traffic taken to determine which roads are most important. The estimated cost per mile, the type and dimensions of roads to be constructed, the location and character of

materials to be used, amount of bond issue necessary to meet the costs, the tax rate necessary to meet the cost of the bond and retire the principal, the method of retiring the principal, the effect of the proposed improvement on traffic and land values should all be covered by this investigation before a bond issue is contemplated. In short, the experience of other states teaches what ought to be apparent to everyone, that an outlay of funds on a scale of magnitude contemplated by a bond issue demands such careful investigation and consideration as to leave no doubt of the wisdom of the procedure. Now, what preparation of this kind has been made in this state? The state officials are asking you to ratify the amendment and authorize them to issue bonds for \$50,000,000 to spend in road building. After the issue is authorized, the money and its use is in their hands. If the amendment is passed, it will impose a tremendous responsibility upon the state highway department; if not upon the present officials, then upon those who must follow them and who must work upon the preliminary work of the present officials. In deciding your vote on the issue you have the right to judge of the qualifications of the officials who are to administer it, and the position of the state government to handle it wisely and economically. We suggest that our readers write to the State Highway Department at Harrisburg, and ask the officials to give you the results of their investigations upon the points here enumerated. As a matter of public service and in support of the measure which they are favoring they can not logically refuse to give this information, which experience in other states has shown to be of vital importance to the economical administration of the bonding system. The replies you receive will assist you in deciding how you ought to vote.

Leaving the Farm

The article by "The City Man" in this issue presents an extremely interesting analysis of a number of the most vital problems in present-day farming. We do not agree with him in all of his conclusions, and we do not expect our readers to agree. But they are all worthy of careful consideration. There has been too much extravagant advertising of success of city men who have gone into the country and amassed riches where old, experienced farmers were making only a moderate success. Such stories have appeared to be very popular in recent years, but they have created wrong impressions which have been unjust to at least two distinct classes. In the first place, they do, and we sometimes suspect are designed to, catch a certain class in city life which is easily influenced to make hasty decisions and rash investments. They have been the cause of a certain kind of back-to-the-land movement which has injured rather than helped the rural districts, and has been the means of wrecking those who attempt to follow it. Again, they have helped to create the opinion among the city people that farmers as a class are grossly inefficient. In both cases the result is unjust, if not positively dangerous. It is a relief, therefore, to have a city man's analyses of the questions involved, and to find that he is able to discover the opposite view. But does he not go to the other extreme? Is he not finding the farmers' side a little too discouraging? We would like the opinion of readers. He has given us much that may be discussed with profit, and we are certain that the opinions of farmers who have met the conditions he describes will be of interest to all our readers. Let us look a moment at the earning capacity of the farmer as a carpenter. Lest his improved condi-

Pennsylvania Farmer

September 6, 1913.

tion in the city arouse undue envy, let us not forget that he has \$10,000 invested in stock which is paying him good returns. He is therefore receiving \$500 per year to help out on his salary, which would not be available to the man without such investment. As a day workman he is credited with a yearly salary of over \$1,185 per year of 48 weeks. Out of this salary he has to pay for his living and that of his family, which includes house rent, provisions and clothing. While on the farm this living was charged at about \$350 per year, which may be a fair estimate, but which would provide extremely indifferent living in the city at the present time. The family that lives in the city today on less than \$750 up to \$1,000 per year and maintains a standard of living even approaching that on the average \$10,000 farmer must have more than one bread-winner, and must draw a part of its support from some other source than the head of the household. Also the allowance of 48 weeks' work per year must be taken as the maximum in very prosperous years, such as the present. It will not serve as an estimate for a period of years, and it is when the head of the family is idle and the rent and living expenses continue to go on, that the transformed carpenter would long for the farm, which, even in its leanest years, insures a friendly shelter and a comfortable living. But this is but one phase of the city man's argument. Let us have your opinion on the other and more important phases.

Our New Departments

We wish to call attention to the two new departments starting in this issue. The purpose and scope of our Farm Counselor Department is fully explained in the counselor's introduction. It will be maintained for the use of our readers, to bring out a discussion of the many questions which come up in the every-day work of the farm, together with such other matters of farm interest as have been suggested by the counselor's long experience and observation in country life. In the Over the Fence Department we are offering "something different." As will be inferred from The Country Parson's introduction of himself and his department, this feature will be in the hands of a very unusual man; one who has maintained a close, sympathetic interest in all that pertains to farm life, even while busy in other pursuits. It is unnecessary for us to add anything to what he tells us in his introduction, but we can safely prophesy that our readers will find The Country Parson a big man who knows men and motives, and who is able to give the practical results of his study of them and of public affairs in a most pleasing and entertaining style. We know that our readers will like him better and better, as they become better acquainted with him thru his writings, and they will draw comfort as well as profit from his weekly survey of the things he sees in looking over the fence.

Science in Farming

An extensive apple grower in this section, in commenting on the partial failure of his crop this season, said that with proper management the apple crop ought never to fail. His lack of a crop this year is largely due to the damage by frosts last spring. He argues that with proper feeding of the soil and proper handling of the orchard, the trees should develop a hardiness and vigor that would escape the great proportion of our damaging frosts. He believes that after the grower has given from eight to ten years in bringing his orchard to producing age, if his work is properly done and is continued, there

should be no off seasons; that when apple growing is perfectly understood, crop failures will be charged to the man, and not to the weather. This will be making an exact science of orcharding. It is the goal toward which all scientific farming is aiming. Will it precede the millennium?

STATE CAPITAL NEWS

New Cattle Law in Effect.—Altho there has been no announcement of the fact and apparently but little change has been made, the new Pennsylvania law regulating the control of diseases of domestic animals is now in effect. This law gives the State Live Stock Sanitary Board and its officers more power to handle diseases of animals than possessed by any state in the Union. The act was drafted to meet many conditions which have arisen in recent years, especially the campaigns for control of foot and mouth diseases and other serious ailments. The law also allows the state to take control of the outbreaks of other than dairy cattle and poultry can be taken under surveillance. If the necessary funds to pay indemnity to farmers for cattle or horses that have to be killed are made available without delay, the new law should work very smoothly.

Nursery Inspection Service.—The nursery inspection service, developed by State Zoologist H. A. Surface, is being pushed with considerable vigor this fall and thus far more than two-thirds of the nurseries have been inspected and in addition a sharp watch has been kept on importations of stock from foreign parts. Dr. Surface has had no reports of brown-tailed or gypsy moth made to him, but he has things arranged to send inspectors and men trained to fight such pests if they are reported in any place in the state.

Success of Farm Advisers.—Director A. L. Martin, of the state's farm counselors, says that the demands for the services of the 10 people who have been furnishing advice on general farming, crops, soils, co-operation, dairying, poultry raising and household economies have far exceeded the ability of the counselors to attend to in six weeks. The counselors assemble at the Capitol this week for a general conference, at which it is expected their experiences will be gone over and the service perfected. Some of the counselors have visited as high as 10 farms a day, and have been inundated with requests for advice when it is known they are in the neighborhood. The service has been all that was hoped for it, and is counted successful by officials. It is proposed to have the counselors work in conjunction with demonstration cars on various features of farm work and household economies this winter. The Lehigh Valley Railroad has arranged for a car to contain a model kitchen to run on its system, with lectures by Mrs. Foulke, a state counselor, and other roads may do the same.

Large Attendance at Fairs.—Reports reaching the Department of Agriculture indicate large attendance at the county fairs which have been held the last 10 days of August. In some instances the exhibits were greater than usual and many instances are reported of produce fresh from the field being displayed. The attendance and premium lists are both reported as larger than in 1912.

Representing the State.—James W. Kellogg, chief chemist of the Department of Agriculture, is at Washington representing the state in a conference of government officials and chemists, state chemists and manufacturers to secure uniformity in definitions of wheat products.

Freight Rate Notice.—A notice served upon the public service commission by the Pennsylvania Railroad is considerable interest for farmers and shippers, because of the intimation that if certain rates are imposed by the Interstate Commerce Commission it will mean an advance in freight rates on state, especially in the handling of coal, manufactured goods and agricultural products.

Crop Reports Made.—Altho the bureau of statistics is still in process of information at the Department of Agriculture, a number of farm owners in the western end of the state have shown their interest in what the state is trying to do by sending in reports of their farms. These reports are of value because they indicate what information is available, and what the farmers like to know about each other. They will be used for information in ar-

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range the new state bureau. The reports sent include statements of acreage cultivated and in woodland, and the yields of various kinds. Road Work Being Closed.—In the last few weeks the repair and maintenance forces of the State Highway Department have been cut to a minimum and the indications are that but little will be done until next spring. The department is now pushing work on the construction of sections of road under state aid, and it is the hope to make the best showing of any year in state aid work. About 100,000 feet are under contract and 125,000 more are advertised. More may be advertised later if the weather remains favorable for at least a start on work.

Rural Wealth.—It is an interesting commentary upon the conditions in the rural counties of Pennsylvania, has shown an increase in the value of personal property returned to the state for purposes of taxation. These reports, which are being made to the state for the last time, as hereafter such property will be taxable only for county purposes, show that rural assessors have been active in entering personality and that many farmers have money in the bank. The total report for the state should have much of interest for Pennsylvanians, whose total wealth assessed for state taxation is greater than that of New York or any other state in the Union.

Adulterated Feeding Stuffs Found.—Convictions of firms have been secured

by the feeding stuffs control division of the Department of Agriculture in three counties of the state, in the last 10 days. In each case justices found for the state and fines were imposed. In Washington County chicken feeds were found to be dosed with weed seeds, and in Mercer and Butler counties bulls were discovered in cottonseed meal offered as pure stuff. Linsed oil investigations in Berks County have shown some adulterations.

Money for Rural Districts.—A number of the rural school districts which filed their reports with the state have received the annual payments of state money from the state treasurer, and it is stated that others will follow soon. The smaller districts have had a hard time in some instances, and where pleas have been made for prompt payment the money has been forwarded. Others have been held up, owing to the heavy demands upon the treasury, but it is hoped to make large payments before the end of September.

State Police at Fairs.—Owing to the strike service of a portion of the state police at Erie the details to county fairs this fall will be somewhat reduced, but steps are being taken to send them wherever possible. The requests made at the office of the department have been very heavy, managers of agricultural fairs calling attention to the fact that state police have been of great value in preventing thefts of teams and in tracing those taken.—Hamilton, Harrisburg, September 2.

Party Registration and Enrollment For Primaries.

By R. C. Heisler.

Several important changes were made in the election laws of the state by the recent legislature, and it is the purpose of this article to set forth the new provisions so far as they affect the registration and enrollment of voters in election districts other than in cities of the first, second and third classes.

The most important of the new statutes is the Primaries Act, which provides for the nomination at primaries of all candidates of political parties for the office of U. S. Senator, for the office of representative in Congress, for all elective state, county, city, ward, borough, township and district officers, and for all other elective public offices except that of presidential elector. Under this act, however, there is practically no change in the method of registration and enrollment.

The qualifications of voters at the primaries are the same as the qualifications of voters at elections, except that so far as the payment of taxes is concerned, it is sufficient if the voter shall have paid on or before the day of the primaries and within two years of the election, a state or county tax. It may be noted that the law as to assistance in voting remains the same as under the Uniform Primary Act, which went into effect in 1906; namely, no voter shall be permitted to receive any assistance in marking his ballot, unless he shall first make affidavit that he can not read the names on the ballot, or that by reason of physical disability he is unable to mark his ballot.

The practical working of the Uniform Primary Act brought to light an important evil, to remedy which there has been a large public demand. This evil was that no effective means was provided of preventing a member of one party from voting at the primaries of another. As a result, the members of the majority party have at times controlled the nominations of a minority party. To meet this condition, a statute has been passed which supplements the Primaries Act by requiring the enrollment of voters according to their respective party preferences, as a prerequisite to the right to vote at a primary.

This act was approved by the governor on July 25, 1913, and by its terms the assessor or registry assessor must, within 45 days after the approval of the act, make an enrollment of each voter residing within his district. It is the duty of the assessor, by personal inquiry of the voter, to ascertain his party affiliations and to record the same, together with the other particulars ordinarily ascertained. If the voter is not at home at the time of the visit of the registry assessor, a certificate of enrollment is left to be filled out. The form of the certificate is set forth in

the act. It is necessary to fill out and to give this certificate to the assessor at some time prior to or on the 62d or 63d day preceding each primary, on which days the registry assessor must be present at the polling place.

Enrollments subsequent to the one above mentioned are made at the time of making the annual assessment, but it must be noted that under the act it is the duty of the registry assessor, after once ascertaining the party affiliations of a voter, and in the absence of notice to the contrary, to record the voter as a member of the same party from year to year. If the voter desires to change to another party, it is necessary for him to file with the registry assessor a certificate of enrollment to that effect. It is expressly provided that no elector shall be permitted to vote at any primary election unless he is enrolled and registered as a member of some political party; and no elector who is enrolled and registered as a member of any one particular party shall be allowed to receive or vote the ballot of any other political party. Any voter wilfully voting or attempting to vote at a primary election in violation of the provisions of the act is subject to imprisonment for not more than one year or to a fine or not more than \$1,000, or to both, in the discretion of the court. If, however, an elector does not desire a vote at a primary election, it is not necessary for him to state his party preference.

One important qualification must be remembered. A voter can not put himself on record finally as a member of a certain political party merely by a statement to that effect to the registry assessor, or by filing a certificate of enrollment to that effect. To become entitled to future membership in a party, a vote must be cast at an election for a majority of the candidates of that party. Thus, if a voter who has been enrolled as a member of a certain party is challenged at the primaries, he must make oath before the election officers that at the last preceding November election at which he voted he voted for a majority of the candidates of that party. In determining the number of candidates at such election, the group of presidential electors are to be counted as two candidates. If a mistake has been made by the registry assessor in recording the party of a voter, such mistake may be rectified by personal appearance before the assessor. The correction, however, can not be made later than 10 days before the primary at which the voter intends to vote.

For any wilful violation of the provisions of the act by the assessor or registry assessor, or by registering as the member of a political party one whom the assessor knows not to be such,

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or for excluding from a party enrollment any voter whom he knows to be entitled thereto, the act imposes the same penalty as in the case of a voter who wilfully violates its provisions. A like punishment is also prescribed in the case of a voter who wilfully makes a false affidavit or statement to the registry with intent to procure a false party enrollment.

There is one exception to the rule which excludes a voter from casting his vote at a primary election unless he shall have been enrolled as a member of a particular party. Another statute passed at the last session of the legislature provides that all judges of any court of record, whether such office of judge he filled by the vote of the electors of the state at large, such as the judges of the Supreme Court, or of the electors of any county or judicial district in the state, shall be nominated at primaries on non-partisan ballots. Where the judge of a court of record is to be nominated at a primary, therefore, every qualified elector is entitled to receive and to vote such non-partisan ballot, without regard to his enrollment as a member of any particular party.

The provision for enrollment according to party preferences as a prerequisite to the right to vote at a primary election is certainly a step in advance, and it is to be hoped will result in a substantial improvement in our elective system. Probably all of the statutes above referred to will have to stand the test of constitutional objections, but it is not within the scope of this article to discuss that phase.

COUNTY NOTES

Fayette Co., Pa. (S. W.), Aug. 22.—Very dry and hot for two weeks; warm showers today. Live stock continues scarce; prices for same extremely high; corn advanced 15c per bu. in a week; the local corn crop promises to be a little above the average; potatoes a medium crop and free from blight. Farm work is progressing; ground very dry and hard for plowing. Harvesting about done, some oats not yet. Threshing well under way; most farmers have their manure hauled, and fall work has begun in earnest.—Samuel A. Harris.

Steuben Co., N. Y. (S. W.), Aug. 25.—Dry weather has done some damage. Live stock is high in price. Cows, \$50 to \$75 each; calves, \$15 to \$20 each. Hay was a fair crop but not moving; oats a fair yield with about 35 bu. to the acre; butter, 28c; eggs, 24c. Too dry to plow for fall crops; buckwheat is short, but looks better since a shower on the 28th.—G. W. Rowley.

Sullivan Co., Pa. (N. C.), Aug. 23.—Warm and dry, but indications of rain. Live stock very scarce; oats fair; corn seems to be quite good and not hurt much by dry spell; hay was quite good as to quality, and crops were larger than most farmers expected; eggs, 24c; butter, 25c per lb. The farm work is in pretty good condition; some threshing being done. If dry weather continues, buckwheat will be poor.—George G. Junk.

Ocean Co., N. J. (C.), Aug. 17.—Warm and dry with insufficient rain. Corn, 55c; hay, \$18 per ton; potatoes, \$1.75 bbl.; cows, milk, \$60. Work is well along; plowing for fall sowing nearly all done, altho ground is dry and cloudy; some land seeded to grass.—C. M. Rorer.

Warren Co., N. J. (N. W.), Aug. 16.—

Hot, with occasional thunder showers. Stock looks good and is high. Potatoes look good, but not many in a hill. Eggs, 26c per doz.; butter, 32c lb.; milk, \$1.30 cwt.; shelled corn, 85c bu. Plowing for winter grain. On August 1st a cloudburst occurred which did much damage. It will cost the county \$10,000 to repair roads. Bridges and several buildings were struck by lightning.—V. R. Loller.

POTATOES: A MONEY CROP

The time to start work for next year's potato crop is this fall in the selection of seed and preliminary treatment of the ground. For every farmer who is growing potatoes as his money crop, or who works for maximum production of potatoes, even on a small acreage, there is no more helpful source of valuable information than a 50-page booklet, with the above title, recently put out by George D. Leavens, B. S. This booklet is a brief, concise summary of the results of years of practical experience and observation of the best practice of prominent growers in various sections. It tells the practical farmer just the things he wants to know on soils, potatoes in the rotation system, preparation of soil and seed, cutting seed, planting, cultivation, fertilization (home mixed or ready mixed), quantities and brands of fertilizers, spraying, varieties, harvesting, potato machinery, cost of growing.

It also contains the Story of a Profitable Potato Crop, by Mr. B. H. Ward, of Aroostook County, Me., telling how he grew 6,451 barrels of potatoes on 50 acres, an average of 129 barrels per acre. The cost of raising was about \$2,000 and the crop return was \$13,450.85. The booklet is fully illustrated and will be sent free upon request to any of our readers. Address the Geo. D. Leavens Co., 51 Chambers St., New York City.

STAGNANT WELL

I have a well, about six feet deep, cut in hard, black shale. The water flows in quite freely from a fissure about two feet from the bottom. I have a concrete wall around the well above the shale, and have just put in a pump, intending to use the water. But only a week after the well was cleaned out the water is turning green again and has a stagnant smell. What can I do to keep the water pure? O. H. H. Eden, N. Y.—It is always difficult to keep water in wholesome condition in such a shallow well. If there is a sufficient supply of water, it would be advisable to arrange drainage to carry off the excess and prevent stagnation. If surface drainage contributes to its supply, it will never be a safe source of water for domestic use. We would have the fresh water tested for purity, and if it shows low quality, would sink the well to a lower vein. There are a number of ways of clarifying stagnant water, but there is no way of insuring wholesomeness of water from a questionable source.

STATE BEEKEEPERS' MEET

The annual field meeting of the Pennsylvania State Beekeepers' Association will be held at the apiary of George Steele, West Chester, Pa., September 6, 1913. A particularly instructive program has been arranged.



Any Boy Can Earn a Watch

This is a good dependable watch and better for a boy than higher priced ones as it will stand a lot of hard usage.

It is 16 size, open face, stem-wind and set, nickel case and a good time-keeper.

Send us 10 new trial subscriptions to Pennsylvania Farmer at 15 cents each to Jan. 1, 1914, and we will send the watch postpaid.

Any bright boy with a little hustle in his makeup can earn this watch in a day or at most two.

PENNSYLVANIA FARMER, 214 South 12th Street, Philadelphia, Pa.

Household

TAKING LESSONS IN COOKING

By Charlotte Marshall

If you live near a public school that is visited by a domestic science teacher at regular intervals, why not try to arrange a class for the women of your community, beginning in the fall? You can take sewing or cooking, and perhaps you can arrange for lessons in each. About 20 of us take a cooking lesson once a month, from October until June. We enjoy it hugely, besides learning to cook better. The new recipes we try turn out to be most delicious; our teacher wisely selecting those for which the ingredients are not very expensive.

We arranged for lessons in this way: One woman went to the principal of the school and asked concerning the domestic science teacher; was she practical, was she a person of common sense and no faddist, and might it be possible that we arrange a class. The replies being satisfactory, we arranged with our "cooking" teacher, the time selected being the second Friday in every month during nine school months length of lessons to be two hours.

We asked a large enough number to become members to insure the teacher's salary (\$2.00 per lesson) and pay for all purchases necessary for our lesson. (cream, milk, butter, or other "home" produce was brought by members, having been ordered at the previous meeting by the teacher. This was paid for out of our dues, fifteen cents being the nominal price of each lesson, and paid by every member, whether she attended the lesson or not. This was our first arrangement.

Some members of this class are fine cooks, but all admit that they have learned points of value. We have been attending this class three seasons, and have learned much on the qualities and values of different kinds of food, and have been taught to cook new dishes and make old ones better. At the very first lesson we were told to come next time provided with a large apron, a holder and a cloth; the apron, of course, we knew we were to wear, and the other necessities were explained. The holder was made similar in size and shape to an iron holder, but not so thick; this was suspended by a piece of tape, fastened to the waist line with a safety pin. An old napkin or white cloth was also adjusted in like manner. The holder was to lift pots and pans from the stove, and the napkin was used to wipe the hands on at various times in cooking a meal, to remove flour dust from fingers and ever so many other little uses which you will soon find out if you try it. Usually five recipes are tried at one lesson. Five cooks are appointed. They, in turn, select each an assistant. We are required to have a blank book and pencil in order to copy the recipes.

SLICING VEGETABLES AND FRUITS

This slicer slices all kinds of vegetables and fruits—any thickness—all slices even. It makes the best cold slaw, Saratoga chips, re-cuts for French fried potatoes, squares for soups, etc. It is easily taken apart for cleaning or brushing.

Directions for Operating.—The thumb screw which holds the shaft in the journal bearing must be tightened until it just rubs the shaft. The end of this screw fits into the groove in the shaft and is only for the purpose of keeping the shaft from slipping out. The knife is bent out screwed on to the shaft, but

can be taken off for sharpening if desired. The adjustment of thickness of the slices is made by pushing the disk on the outer end of the shaft in toward the body of the machine for thin slicing, or toward the end of the shaft for thicker slicing. The end of this disk thumb screw slides along in the little V groove of the shaft, and when the thickness is what you desire, tighten this thumb screw fairly tight, which will hold the disk firmly to its place, and bring the knife to its proper position. Just a little experience will make this adjustment very easy, and you will know just how far in or out to push the disk to get the thickness you want.



FRUIT AND VEGETABLE SLICER.

against the revolving disk, and the machine will deliver perfect slices as thick as a visiting card up to one-half inch. The pusher or force is hinged, so that for starting a long vegetable it can be thrown back out of the way, but when the article is partially sliced, use the pusher to hold it to the disk, saving the danger to your fingers. Nothing but gross carelessness can put these fingers in danger, for the pusher takes care of that part of the work, and the end of the knife is protected so you can't be caught there.

To clean, loosen, but do not take out the two thumb screws, and the machine comes apart easily. Be careful not to nick the knife by careless handling. For making cold slaw, divide the head of cabbage into four or six parts, according to the size, lay a piece in the box with the point or top end to the knife and roll the point upward until the heart stands on end with the leaves entirely cut away. To cut for French fried potatoes, cut the potatoes in as thick slices as the machine will make, then replace the slices in the box and cut into strips.—Horsekeeper.

FALL WORK ON THE HOME GROUNDS

By Henrietta I. Lockwood

Begin now to beautify the grounds, be they large or small, for winter, with an eye to next spring's gardening. It has always been a subject for wonderment to me, just why some people who have such pretty gardens during the summer have such desolate places in the winter. There is no reason why one may not enjoy beauty all the year. Trees in the rear of a house give it a pleasing background, and strengthen the beauty of the whole place. Trees, then, we will suppose, have been planted even before the house was erected. The nut-bearing sorts are splendid shade and furnish great fun in the fall for the little ones—and fun should be a part of every home life.

There may be some stone wall on the place. Of course, it looks dreary in the winter, but if vines have been planted, and have laid a witching tracery in which the falling snow may find lodg-

ment, the wall is a thing of beauty. Should there be any out-buildings, these may be grown over with a wild grape vine, very easy to plant, or there may be the several kinds of Clematis, that make a more compact growth. It grows wild and requires only the work of transplanting.

Woodbine and Boston Ivy are easy to grow and make a splendid shade. The importance of these hardy vines can not be too greatly emphasized. The transplanting year rewards one with little top growth, but if the plant lives the second year there is rapid progress. All clinging vines thrive best on the east and south of a building, and this is where the shade is most needed.

All these vines are best set in the fall, as they are in the semi-dormant condition and feel the shock less. Good drainage is essential to successful vine growing, nor should the plants be set where there is a heavy down-pour of rain upon them. This is not objectionable during the summer months, but in freezing weather too much water will kill the roots.

One of the pretty spots I have visited this summer was a rustic home where money is none too plentiful. The boys have built a rustic pergola, and the growth of vines over it was complete this summer. The pergola was simply split rails, put up strongly but roughly. They do not show thru the vines, and the shade is wonderfully sweet on a hot day. These same boys, being artistic, and that quality being encouraged by the elders of the family, have built a bird fountain from small stones gathered along the road. Some cement was mixed when the stones had been collected, and a great day of fun was had in the building. A water pipe extension from the house, ending vertically, was built around the stones "set" with cement, and an old wash basin had been placed on top of the pillar of stones. This had a hole in the bottom, thru which projected the pipe, on which a common faucet was placed.

A small stream of water flowing into the basin, over-ran the pillar of stones into another basin built of the smaller and smoother stones, which in turn over-ran into the ground. Perhaps not over two quarts of water in half the day was run thru the pipe, but such a carnival as the birds held there every morning was a joy to the whole family. This merely suggests what joy may be had with a little of the great natural resources of Nature quite within the reach of even the poor.

For those who have but little time to spend on the home grounds, there is much pleasure obtained in shrubs that require little attention. The best of these are the herbaceous perennials cultivated for foliage as well as flowers. They will thrive with no more than three cultivation periods during the growing season, and a mulching for fall protection.

Most shrubs, if planted in well-prepared and heavily-fertilized soil, will thrive and blossom for a generation in one place, even when standing on the grassy lawn. Hardy hydrangeas make a splendid hedge between the yard and the vegetable garden. They may be planted at a season when other work is not pressing, and will well repay the gardener. Golden Glow, as it is commonly known, gives a splash of color in the fall that nothing else can give, and it is so easily grown that anyone can have "gold" until the frosts come. When that frost does come, all the dead stalks should be promptly removed and the beds cleared off and made ready for next spring.

Dead stalks give a yard a dreary appearance that nothing else will. Tear down the frost-bitten, tender vines and remove all evidence of death. Winter



Mrs. Bigfarm—"Well, well, well! Come in, Anty Drudge, and let me thank you for telling me about Fels-Naptha Soap. I'm a different woman since I started using it. All the work gets done so easily, and I'm so rested and happy—and we're saving money by not having to hire extra help all the time. We'll soon have enough to buy that piece of woodland."

Anty Drudge—"Just think of that! I'm certainly glad to hear that Fels-Naptha Soap has proved to be such a help to you."

There's nothing you use soap and water for that can't be done better and easier with Fels-Naptha Soap and cool or lukewarm water.

For washing fine laces or heavy ginghams, greasy pots and pans, mud-tracked floors, dirty windows, Fels-Naptha Soap is the best thing to use. It saves your strength, because it works for you. It dissolves grease, makes stains and dirt disappear.

The Red and Green Wrapper will tell you how to use it for hundreds of things about your home.

Fels & Co., Philadelphia.



is beautiful, and a home grounds may be made as charming in winter as in summer, if a bit of work and some loving thought is spent on them. Now is the time to begin the thought, and soon one may begin the real work. A panny bed may be planted any time; the small seedlings will make good growth before cold weather comes.

FUN IN THE SURF

Our home is right on the bay shore, and many happy hours are spent down there. After an afternoon in the berry patch or peach orchard, we put on our



FUN IN THE SURF.

bathing suits and go to the shore for a dip in the bay. We always take the baby, too—the bathing suit now will do for Mr. Number 3. The children are never afraid of the water, as they have been used to it from infancy.—Evelyn Harris.

A HINT TO COUNTRY MOTHERS

By Hilda Richmond

Children Overeating

Often the mistakes people make are simply those caused by lack of knowledge or experience, and this is true in regard to a little country custom at the table. Children are allowed to help themselves bountifully, or else their parents fill their plates bountifully, everything on the table they fancy, and if they want to eat it, all right, while if they fail to do so that is all right also. The old custom of making children eat all that is put on their plates has mercifully been relegated to the past, but in these days of prosperity the danger lies in allowing the pendulum to swing too far the other way.

At a delicious country dinner not long ago a little child was allowed one thing after another until at last the appetite was satisfied, and in the plate remained a piece of chicken with one or two bites missing, a big doughnut with tiny teeth marks in it, gravy, potato, sweet potato, salad, a roll covered with gravy and other good things, all muddled over. "It isn't wasted," said the mother lightly. "The chickens have to be fed." And, in a way, the waste was not so great for the country housekeeper, altho chickens do not have to be fed good bread and butter, meat, salad and cake; but the habit of allowing the child to take more than the little stomach could reasonably be expected to hold, was the hard thing about it all. The idea of dividing a piece of cake among three or four children, and then allowing them a little more if they are really hungry was a new one to the mother, and she said it looked stingy to limit the children.

The other side of the story is told when the children visit people who live in town, where food stuffs cost a great deal of money. A very economical city woman, who must keep house on a limited income, says that she dreads to see her sister's children come to visit her

because they are so wasteful. Three times as much butter as they can eat, large pieces of bread, preserves, vegetables and everything that takes her hard-earned money has to be scraped in the garbage pail because she keeps no chickens. The children are sweet and well behaved, and model little guests in other ways, but the meat and grocery bills mount up when they waste the expensive food. On the farm nothing is thought of portions half eaten, but town people have to count every penny.

So the little hint may help some mother to train her boys and girls to take a moderate amount of food and ask for a second helping if necessary. All mothers desire that their children shall be welcome guests in every home, and it is only thoughtlessness that allows the waste, or else a lack of knowledge in regard to what food costs in town. The children are really better off when they do not overload their plates, and the chickens can eat something else just as well. And in addition to all else it will take less work to prepare food for the family if nothing is wasted.

FRUIT PRESERVATIVES DANGEROUS

Every little while some woman is told that she can make her fruit canning much easier by using some preserving powders. Many of us know that it is unnecessary, and we are told in strong words that it is dangerous and that it only means a lack of thoroughness in canning. Dr. Conn, one of our highest authorities on this subject, says: "If the housewife can not preserve her fruit without them, she would do very much better to buy her fruit canned from the store. At all events, no one should under any circumstances resort to the use of borax, preservative, antifermentine, or any other materials put upon the market for preventing fermentation. They are dangerous to use, they are at least partly poisonous, and their use in any form should be absolutely avoided in domestic work."

Glass jars are becoming so universally in favor that they are taking the place of tin cans for every thing, even for tomatoes. We used to think that tomatoes would not keep unless in tin, but we know differently now. It is our experience, too, that glass jars are more economical than tin, for, altho the glass costs more in the beginning, it lasts and can be used over and over again; while tin can rarely be used more than twice, and usually should not be used but once, because it is apt to corrode.—Nevada Davis Hitechoek.

TO CHECK HEMORRHAGE

Accidents sometimes occur on farms, many miles away from a doctor, and in the excitement of the moment remedies are applied which do more harm than good. Some time ago a man had his arm caught in some revolving machinery, and an artery was severed. One of the men standing by, becoming alarmed by the bleeding and thinking it must be stopped at any cost, hastily caught up a handful of tar and put it on the bleeding arm. The bleeding stopped it is true, but the tar was not clean, blood poison set in and the man died.

A simple way to check bleeding is to take a strong strip of some clean material, wrap it tightly about the injured part and tie so that the knot rests directly over the bleeding point. Then twist just as tightly as possible. A piece of wood, or even a lead pencil, slipped thru the knot, will aid in twisting the bandage, and it may be held in this way until the doctor arrives. The more pressure brought to

bear over the bleeding point, the more quickly will the flow of blood be checked. A doctor should be called as soon as possible, as the pressure must not be too long continued.—E. M. P., Maryland.

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5927—Ladies' Shirt Waist.—Cut in 4 sizes, 32 to 42 inches, bust measure. Size 36 requires 34 yards of 27 inch goods. Price 15 cents. Price of 15c broinery Design No. 5297T is 10 cents.

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Looking Over The Fence.

By THE COUNTRY PARSON.

Introduction

Did it ever occur to you that when the fathers of our country wrote the opening paragraph of the Declaration of Independence they not only felt that they needed an introduction among the family of nations, but that they also insisted upon introducing themselves instead of leaving this embarrassing duty to some kind friend, who might or might not say just the right thing? I have always understood "When in the course of human events it becomes necessary" and "A decent respect for the opinions of mankind requires."

Having thus appealed to a precedent, which is above question or criticism, I may hope that the editor of Pennsylvania Farmer will not object if the Country Parson, with a decent respect for the opinions of its family of readers, not only feels the need of an introduction but also insists upon doing the introducing himself. This does not mean that I have any fear of his not saying just the right thing. It merely means that I prefer to answer the question: "What does a minister know about farming?" myself.

Here is the answer: He knows nothing. This answer, of course, is bound to give rise to another perfectly proper question: "Then what right has he to write for farmers?" An answer to that question, I think, may serve for an introduction. It is my experience that every farmer likes his minister to have a sympathetic appreciation of the care, toil and labor which fill his life. It was for this reason that men of old endowed every country parish with a parson's glebe, or farm. It was never their intention that the minister should be a farmer rather than a pastor. Neither did they desire that he should spend his time in agricultural experimentation and demonstration. But they did want him to be close to the soil, for that brought him closer to them. The farmer more than any other man feels his dependence upon the bounty of God's gracious providence, and he likes his pastor to feel it with him, so that both together may pray with understanding: "Cause the needful fruits of the earth to prosper that we may enjoy them in due season."

Our fathers felt that, and arranged for the minister's support, not on the basis of a money payment, but rather by the attaching of fertile fields to his benefice. It was the surest way to secure his sympathetic and intelligent interest in their calling. If he drove by the farm and stopped for a chat over the fence, he knew what the farmer was doing. While he could not pose as an agricultural expert (no farmer wants his minister to be that), he could at least offer a decent opinion or helpful suggestion to the man he was talking to.

Now I desire to rest my right to talk to the readers of Pennsylvania Farmer, not upon any great knowledge of scientific agriculture, but merely upon a sympathetic appreciation of the multitudinous problems which today confront the farmers of this country. It is barely possible that I, as a former country boy, and country minister who has never lost his interest in country affairs, may now and then be able to offer a decent opinion or a helpful suggestion to men who know more about farming than I do.

This brings us to another fair question: "How do you propose to do it?" Here is the answer to that: "By looking over the fence." I learned this from my father, who lost his health when I was about twelve years old.

gave up his business in New York, disposed of his property and bought a farm in northern Michigan. Before he left for the West, a customer named Powell, a shrewd old Quaker, came into the store to say good-bye. "He asked me," said my father, "if I knew anything of farming. I was compelled to admit that I did not." "Well, Henry," said Mr. Powell, "I will give you one piece of advice: 'Look over the fence.' At the time, I did not know what he meant. As soon as I began to work I quickly found out that I had to study the methods of my neighbors. Looking over the fence taught me two things, what to do and what not to do. I became a successful farmer by looking over the fence."

I wonder if there is any other way to become a successful farmer? I know of none. I have now been doing this for some years. So when you see a ministerial person looking over your fence, the Country Parson will need no further introduction.

MEETING MARKET DEMANDS

Farming would be rid of its greatest handicaps, and I suspect robbed of many of its stimulating exactions, if we always found our markets demanding the particular things which we can grow the most easily and most naturally. But farming is not built on that basis. Thus the test of the good farmer is to adapt his operations to suit the needs of his market. This requirement is nicely illustrated in the case of my good German friend who bought a farm in Maryland some little time ago.

At my last visit to his farm he, with his two boys, was preparing a piece of sandy loam for an asparagus bed. He had set out a vineyard immediately after he purchased the farm. I could account for the vineyard, for he came from a country where people have the same tastes as a Swiss, who some years ago bought a farm in northern Michigan. This man stopped at a little country hotel with his family. When they came down to breakfast, the waiter asked the usual question, "Tea or coffee?" After a very serious consultation the family came to this conclusion: "Coffee is for rich people. Only sick people drink tea. People in our station drink wine. Let us do as we did at home, drink wine for breakfast." I could therefore account for my friend's vineyard, for he looked at beverages from this strange viewpoint.

I could not account for the asparagus bed. When I asked him how a man coming to Maryland from corn-growing, stock-raising Kansas, had hit upon the idea of raising asparagus, he blamed it upon the egg-laying proclivities of his fine flock of White Leghorns. "Eggs and asparagus," he said, "go together." I could not see the connection. I finally got him to explain that he regularly hauled his eggs to Washington, where perfectly fresh, white-shelled eggs were in constant demand at fancy prices by the managers of the larger hotels, who had great difficulty in getting a sufficient supply to satisfy their guests.

Since he could easily haul some more bulky product with his crate of eggs, and since asparagus, which is harvested two or three times a week, is also in constant demand, he had made up his mind to make "eggs and asparagus go together." I suspect that my friend has been in this country long enough to acquire some of that shrewdness which is the one indispensable element of American humor.

Is it not true that some of this same kind of business shrewdness in analyzing market demands, while not necessarily an indispensable element in farm success, is a forceful contributing factor which might well be developed?

Grange

GRANGE NOTES

A Children's Evening.—We have nowhere seen a more effective employment of children in an evening's program for the grange than at Lyne, N. H. The various schools in town furnished the program, which consisted of songs, recitations, dialogues, flag drills, etc. Five schools were represented by 90 children, and 200 grangers and guests enjoyed the program. After the exercises the hall was cleared and a series of marches and drills were given by the children. The teachers heartily co-operated with the lecturer of the grange in making the evening's program a success.

Kentucky's State Master.—The resignation of F. P. Wolcott, master of the Kentucky State Grange, on account of illness and a proposed tour in foreign countries, has been announced by the National Master. Those who know Mr. Wolcott and who have met him at the meetings of the National Grange will regret to hear that it has become necessary for him to relinquish the work in Kentucky, when for 40 years he has been most active in promoting the interests of the order.

Money for Farmers.—In these days, when so much is being said and so little done to give farmers money at a lower rate of interest, these ringing words from the Northwest, written by Mr. C. R. Kegley, Master of the Washington State Grange, are suggestive and to the point: "The latest returns show deposits in the various savings banks of something under \$30,000,000. This can be doubled inside of 12 months if our Uncle Sam will offer 2 percent in place of 2 percent, and loan to farmers at 4 or 4 1/2 percent. If this were done, money would pour into Uncle Sam's savings banks and there would be no need for all this talk about farm credits."

Unique Field Day.—A rather unusual way to celebrate a grangers' picnic field day was that employed at Westwood, Mass. After an illustrated lecture on clearing rock-covered fields by dynamite, a demonstration was given in a pasture field. The dynamite was applied to a great rock, which was torn from its moorings and thrown high in the air. One section, weighing about 30 pounds, crashed thru the roof of an adjoining cottage, but no one was in the house at the time.

THE MORAL SIDE OF THE BOND ISSUE

It seems to me that there is a moral side to the bond issue which we can not justly ignore. From what has been said and done, I am led to believe that the present highway department is neither efficient nor capable of spending so vast a sum of money to the best interest of the whole people. Even now, with the small sum of money at its command in comparison to that which it is proposed to give it, we learn of cases where men have received a larger compensation than the service rendered and where those who did the real work received a meager wage.

In fact, it looks to me as if the present highway department is a great political net, built and designed for the very purpose of distributing the people's money. The net is cast. Will the people on election day stir the fish down the stream to be caught? If they do, will they do right? Will the people yield to the temptation? If they do they will be ensnared by one of the greatest political schemes that

ever a people were entrapped by.

Promises are being made to build certain pieces of road in various sections of the state, provided we get the fifty million. The whole situation recalls to my mind the condition when, long ago, a certain good man was led in the spirit into an exceeding high mountain; when he was shown all of the kingdoms of the earth and their glory, and was promised them if he would only fall down and worship the tempter. If the people of the great state of Pennsylvania will answer the bond issue in the same manner as did this good man the tempter, they will do well.—An Observer.

This is a Community Age.—The day of the individual farmer has practically passed. All questions that touch the farm, from the control of the Canada thistle to the upbuilding of a good church and the development of an adequate system of rural education, are matters of community enterprise. In fact, the whole solution of the so-called rural problem—the problem of holding a standard people on our farms—is to be largely wrought out thru the community idea. Farmers in the Middle West are deserting their land and moving to town, not because of inadequate financial returns, but in the search for good schools, churches, roads and other social comforts and conveniences. The social comforts, however, are products of community co-operation, and it is evident that the community idea worked out in terms of neighborhood unity and trustfulness, and realized in structures of brick and mortar, would do much to cure present evils and check rural migration.—Mabel Carney, in Community Building and Permanent Agriculture.

NEW YORK'S HIGHWAY GRAFT

The astounding statement is made in high authority that the repairs on roads built in New York state during the last four years will cost taxpayers \$6,000,000. Governor Sulzer's investigators into the extravagance and graft under the highway department as administered under the authority of his predecessor in office, have gathered together indisputable facts of such a nature that all men who had to do with the crooked business of road construction are trembling in their shoes since three indictments were found this week against road contractors and inspectors in Rockland county, and there are said to be as complete cases in several other counties which will receive attention in due time.

Mr. John A. Hennessey, special investigator to the governor, announces that facts have been collected to show that the work done in Rockland County was 70 percent fraudulent. Out of 40 road contracts examined, he claims that only three were found to be in accordance with specifications and free from graft. Basing his estimates on the facts which he has gained from his investigations in the seven counties, he places the amounts stolen by highway contractors and others at between \$5,000,000 and \$6,000,000 in all the counties of the state.

Referring to the Rockland County cases, it appears that one contractor, instead of buying gravel for concrete took the old stone from a macadam road and mixed it with poor sand and insufficient cement; that for a distance of nearly a mile he laid no concrete at all, but mixed soil with old stone; that although the contracts called for concrete four inches thick, it averaged about two inches on two-thirds of the road; that a new road finished in February of this year is now advertised for repairs; that men certified to the use of material that was never delivered.

It is stated on good authority that had Governor Sulzer consented to stop the Rockland County investigations of highway contracts, even up to the early morning of the vote on his impeachment, that there would have been no impeachment. But his unwavering determination to prosecute the highway grafters in Rockland County brought on the present situation.

LEGAL QUERIES

Automobiles—Right of Way.—What is the Pennsylvania law on the conduct of automobiles when meeting teams on the public highways? What recourse does the driver of the team have if these regulations are not observed? R. D. Lancaster, Pa.—The driver of an automobile, when meeting a team on the road, has no more right of way, or preference as to the use of the road, than the driver of the team. The "law of the road" is that each vehicle must turn out to the right. If the driver of the horse signals the driver of the automobile, the latter must stop his machine. If the driver of the automobile fails to comply with these regulations, report the number of the car to a justice of the peace, as the autoist is subject to a fine of not less than \$10 or more than \$25. If a collision results because of such failure, the owner of the team may sue to recover any damages suffered.—G. G. & H.

Maintenance of Line Fences.—I recently came into possession of a farm on which the fences are in poor condition. What is the state law on maintaining line fences? M. T. Montgomery Co., Pa.—The cost of maintaining division fences between improved and occupied parcels of land must be borne equally by the adjoining owners. If the owner of the land adjoining yours refuses to repair his share of the division fence, you must notify the township or borough auditors, who examine the fence; if they find it sufficient, you must pay the cost of their services. If they find it insufficient, they report to a justice of the peace, who notifies the adjoining owner that the repairs must be made within 40 days. If not made within that time, you may make the necessary repairs and collect the costs from him. If the adjoining land is not improved, the owner is not liable to share in the expense of maintaining the division fence.—G. G. & H.

Water Rights—Drainage.—I have a field which drains naturally onto a farm of a neighbor. If I lay a tile drain in this field, must I divert the natural flow of water? J. D. Towanda, Pa.—You may lay a tile drain so as to discharge the water according to its natural channel, provided that you do not increase unreasonably the flow of water upon the lower land. The owner of higher land has no right to divert water from its natural channel by opening new channels, nor can he collect into one channel waters which naturally flow upon the lower land in several channels, and thus cause an unreasonable flow upon the lower land.—G. G. & H.

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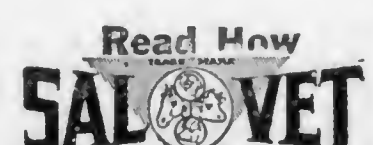
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Cohen and the Cardinal's Ring.

By John K. Lays.

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In a side street leading off from old Bond Street, a few doors from the main thoroughfare on the left-hand side, there stood some years ago—and probably still stands—a house of a quiet and retiring aspect. Rather narrower than its neighbors, it reared a foot or so from the general line of frontage, as tho it were quite willing to occupy the position of a poor relation in that aristocratic neighborhood.

On the ground floor was a single window, shaded by silken curtains in such a way as to preclude any view of the interior; and beneath them lay a narrow platform of red velvet, upon which lay a few articles of vertu—a chased goblet of silver; a piece or two of old china; a bit of old lace, one corner of it displayed with affected carelessness; a tray with a few antique trinkets.

At this window there stood, leaning on a cane, one April morning, a tall, high-bred looking man, already past the prime of life. His well-cut, well-brushed frock coat had a tired, faded look about it; his smooth silk hat was of an antique pattern.

Suddenly he seemed to recollect himself; he stood upright, stepped to the door which bore the legend: "A. Cohen, Dealer in Curios and Antiques," and pulled an unobtrusive bell-handle.

The door opened as if of itself, and the visitor, taking a pace to the right, found himself in a small apartment, half-office, half-shop.

The owner of the establishment, who had been furtively observing the newcomer as he stood outside, now presented himself and smiled an ingratiating smile. He had already noted the shabby frock coat and decided that any marks of deference would be out of place.

"Permit me," said the stranger, and taking out a lady's old-fashioned card-case of flagstone silver, he produced a card which he handed to Mr. Cohen with the tips of his long white fingers.

The Jew's manner instantly changed. "Proud to serve you, my lord marquis," he exclaimed with a shopman's bow.

"I wish to explain," said the marquis, "that altho the title belongs to me I do not generally use it. I am known in London simply as Mr. Sarמוש, or Sarmose, as they generally pronounce it. To speak frankly, our family lost nearly all, save honor, in the Revolution, and the fortunes of our house are now at a very low ebb.

"So low, in fact, have they sunk, that I am compelled to part with an heirloom of considerable value. One of my ancestors in the seventeenth century was fortunate enough to do the king, the Fourteenth Louis, an important piece of service, and the king desired he should be presented with a souvenir of value as an acknowledgment. Accordingly my great-grandfather was presented with a ring set with a magnificent ruby.

"The gift was made thru the king's minister, Cardinal Richelieu, and on that account it has always been known in our family as the Cardinal's Ring. Permit me to show it to you."

The old man leaned his stick against one of the tables, and took out a faded leather case wound round and round with narrow black silk ribbon.

"I have been assured on good authority," he observed, "that there are very few finer rubies in the world, and that it is valued at least at fifteen hundred pounds. Considering that the ring is an historical relic, it is of course

worth a great deal more than that."

Having unwound all the ribbon, the marquis opened the case and produced a netted silk purse, and from that a tiny bag of chamois leather, from which he took a ring of immense weight. The stone was of the true pigeon's blood hue, and of unusual size.

The Jew took it, turned it over, scrutinized it thru a magnifying glass, and returned it to its owner with a shrug of the shoulders and a contemptuous smile.

"Imitation!" he said briefly.

"Sir!"

The thin form of the marquis towered upward till it seemed as tho the top of his tall hat would reach the ceiling.

"But this is an insult!" he cried.

"My ruby, the Sarmose ruby, an imitation! But I have here the papers, what you call the documents, the certificates and attestations. You shall see—you shall see for yourself."

With trembling fingers he unclasp of an ancient pocketbook, and brought forth some pieces of parchments with seals attached and one or two letters yellow with age. It was difficult to understand how such papers could have been fabricated. They certainly looked genuine, and they confirmed the marquis' story in every particular.

"What did you say you expect for this?" said Cohen, laying down the documents and taking up the ring again.

"Fifteen hundred pounds; and if you find me a purchaser you shall have a 5 percent commission."

"Fifteen hundred farthings would be nearer the mark," said the Jew.

But the Frenchman seemed to have decided that it was beneath his dignity to quarrel with the Jew.

"You allow the ring to lie here where it can be seen," said he, "and keep the papers in your safe there; then perhaps someone more skilled in precious stones and more quick than you are to estimate the value of an historic relic may see and wish to purchase it. The commission, as I have mentioned, will be 5 percent."

"Oh, well, all right," said the Jew after a moment's consideration. "And your very lowest price is—"

"My proper price is one thousand five hundred pounds, but I might possibly take twelve hundred."

"All right. But I don't intend to guarantee the genuineness of the stone."

"It is understood—that is my affair, not yours," said the marquis, drawing himself up. And with a dignified wave of the hand he was gone.

"The old fellow evidently believes in his ruby," said Mr. Cohen to himself, inspecting it carefully once more, "and yet—I am almost sure I have seen imitations exactly like it."

He carried it with the accompanying documents to a friend on the other side of the street, a man who dabbled in genealogies, ancient MSS., and antiquities of every kind. This gentleman could say nothing about the value of the stone, but he unhesitatingly pronounced the documents to be genuine, and offered a five pound note for them, simply as curiosities.

This decided the Jew to make an effort to sell the ring, and he forthwith deposited it on the tray on the window-sill, where it seemed to make all the other ornaments shrink to half their proper size. There the ring lay for nearly three weeks.

"Say, mister, there's a mighty big ring in your window—seems to be a ring for Giant Blunderbore. But the stone looks to me first-class. Let's have an inspection."

The tall, lantern-jawed gentleman who said this in a strong New York accent would have been taken for an American anywhere. His quick, alert eyes, dark-brown hair, and clean-shaven cheeks gave him a look of youthfulness, tho he was evidently no longer young. He had a friend with him, a shorter and stouter counterpart of himself.

"That ring, gentlemen," said Mr. Cohen as he handed it to the speaker, "possesses no ordinary interest. It was presented by the Great Richelieu on behalf of Louis XIV to the Marquis de Sarmose, in acknowledgment of his services to the state. Here are documents which tell the story, and which are undoubtedly genuine. The ring was entrusted to me for sale by the present marquis."

"Seems to me you don't know much about it. What does your man ask for it?"

"Three thousand pounds."

"Great Tompkins, d'ye think I'm a No. 2 Rockefeller? But if your story is correct we might make a deal."

Here the second visitor, who had been trying to make out the seventeenth-century French in the documents of title, whispered a few words to his friend, who responded, "Right!" Then turning to Cohen he said: "I leave London tomorrow, but if I have time I will bring a friend who is an expert in these matters to have a look at your client's ring. Good-day." And the two Americans quitted the shop.

Mr. Cohen scarcely expected to see either of them again; but on the following day the taller of them reappeared, bringing with him a little wizened man in a loose, brown overcoat, with his head plunged in a hat several sizes too large for him.

This person scrutinized both the ring and the accompanying documents in a very careful and leisurely manner. Finally, he handed both back to the Jew and spoke a word aside to his companion.

"I'll give you ten thousand dollars—I mean two thousand pounds—and that's an outside price," said the American.

The Jew concealed his delight, and mournfully shook his head. Two thousand pounds, he said, was not nearly enough. Three thousand was his friend's irreducible minimum.

"Vallard, I must be going," called out the man in the loose overcoat, and the Jew started.

It was the name of a wealthy American, already famous as a collector of antiques. Such a man, Cohen told himself, would pay three thousand pounds as readily as two thousand for a thing that took his fancy.

"I regret I am not authorized to take less," he began, but the American cut him short.

"All right. Must be off now—good night," he said; and before the Jew realized it, he was gone.

Cohen made a bolt for his hat, called his wife down-stairs to stand on guard, and rushed after the millionaire, but he was too late. He could not see the American anywhere, and he returned to the shop ready to bite his tongue for vexation.

Never in his life, he told himself had he let such a chance slip. He kept a bright lookout for the American, but in vain.

A month had gone by when Mr. Cohen met in Piccadilly the gentleman who had accompanied Mr. Vallard on his first visit to the shop. He followed the stranger into a restaurant, and, having accosted him, learned to his satisfaction that he was speaking to

Mr. Vallard's secretary, Mr. Windle, and that the millionaire had not left England.

He was staying at a country house, to which the secretary was proceeding that afternoon; and he said he had no objection to bringing the subject of the ring once more under his employer's notice, and letting him know that the owner was now willing to part with the jewel at his own price—two thousand pounds.

Mr. Vallard, the secretary informed him, would return to London on Wednesday, and leave early Thursday morning, staying over night at Claridge's Hotel. If he wished to see Mr. Vallard he had better call there on Wednesday evening.

When Mr. Cohen got back to his place of business, he found the old marquis waiting for him, accompanied by a girl dressed in mourning, presumably his daughter.

The old man asked whether the ring had been sold, and on being told that it had not, he said he wished to have it back, in order that he might show it to a possible purchaser.

"Oh, that is impossible!" cried the Jew, fearing that if he once let the ring go out of his hands he might never get it back. "I am in negotiation for the sale of the ring to a gentleman who has taken a fancy to it; and I am entitled to keep it until my offer is accepted or refused."

"Well, if your offer is not accepted I must have it back at once," said the marquis in a dissatisfied tone. "By the way, how much did you ask for it?"

Now Cohen had been hoping that this question would not be put. He still entertained grave doubts as to the genuineness of the stone, and if he admitted that he had asked a high price for it that would be tantamount to an admission either that he believed it to be a genuine ruby or that he had been trying to cheat somebody.

But the marquis pressed him, fixing him with his eye, and at last the Jew said in an off-hand way:

"I said I believed you would take five or six hundred for it."

"Then you acted contrary to my precise instructions, sir!" cried the old man with sudden fury. "I told you my price was fifteen hundred, which I said might possibly be reduced to twelve hundred, and I forbid you to sell it for less."

"But, my lord, if I had a genuine offer for eight hundred you would not refuse it?"

"I certainly would."

"Then I fear no business can be done," said the Jew with a sigh.

"Give me the ring, then, and leave me to find my own purchaser," said the marquis promptly.

"But this is not reasonable!" exclaimed the Jew. "I call seven hundred pounds a very fair price—a magnificent price—for a stone twice as good as yours!"

"That may be. It is not my price," said the marquis coldly. "Be good enough to give me my ring and let me go."

But this, of course, the Jew refused to do, and he spent a long time in pointing out to the owner of the ring that it would be foolish to refuse a ready money offer for it, when he might spend months or years in waiting for a better price.

Eventually he persuaded the marquis to be content with one thousand and fifty pounds, the odd fifty to be deducted for commission, on the understanding that he would be paid in cash.

"Now that suits me," said the Jew to himself, turning his hands slowly one over the other as the marquis left the shop. "If the American backs out I am no worse off than before; if he

takes it I pocket a thousand pounds instead of a beggarly fifty."

Mr. Cohen awaited with some anxiety Wednesday morning's post. There was no letter for him, and his hopes sank to zero.

In the afternoon he called at Claridge's Hotel, and to his great joy found a letter awaiting him there. It was from Mr. Windle—a mere line, stating that Mr. Vallard was willing to stand by his offer, and would see him at four-thirty that afternoon at the hotel and complete the transaction.

"Is Mr. Vallard staying here?" he asked the clerk.

"Yes. He has not arrived, but rooms have been taken for him," was the reply; and Mr. Cohen went away satisfied.

Again the marquis was waiting for him, his daughter at his side.

"My ring—can I have it?" he exclaimed as soon as the Jew made his appearance.

"I am happy to tell you, my lord, that the ring is sold," said the Jew, with a smirk of satisfaction.

His client's face fell.

"I was hoping—I might have got considerably more for it," he said. "But it can't be helped. If you let me have the money—"

"But that is unreasonable!" exclaimed the Jew. "I haven't been paid myself yet."

Again the marquis' face fell.

"When will you be paid?" he inquired.

"This evening," he said curtly. "Call here any time after six and you shall have your money," he added, being naturally glad to get rid of the marquis and his questions.

Punctually at four-thirty Mr. Cohen called at the hotel.

"Mr. Vallard has gone out," said the hotel clerk, "but he has left a note for you."

"Shan't be in till after twelve, as I am dining out," ran the note. "But there's no need to wait. The hotel manager has my check for the money, which he will exchange with you for the ring. You may leave it with him. It will be quite safe."

The manager, on being summoned, produced a sealed envelope which contained a check on the London and Provincial Bank for two thousand pounds. This he gave to Mr. Cohen, who in exchange handed over the ring with the documents concerning it.

"Well, I expect the expert Vallard called in ought to know, but I can't help wondering whether that stone is genuine. Anyway, it doesn't matter to me. I didn't guarantee it to be genuine, and I don't care whether it is or not. I come out on top, whatever way it is."

At the Jew's place of business the marquis was waiting for him, this time alone.

"You have sold the ring?" he asked, with no appearance of anxiety.

"Yes, I have sold it."

"For thirteen hundred pounds?"

"No, for a thousand guineas."

"Ah, that is a loss to me. I believe I might have got half again as much."

"Well, the money will be ready for you tomorrow," said the Jew abruptly.

"The money will be paid to me to night, or the ring will be returned to me tonight," said the marquis calmly.

"Tomorrow, I say!" screamed the Jew. "You can do nothing tonight! The banks are closed—"

"If I am not paid tonight my solicitor applies for a summons at Bow Street tomorrow morning," said the marquis.

"You are talking nonsense," blustered the Jew. "No summons would be granted. I am a respectable man."

"The summons will certainly be applied for, and the magistrate shall know the facts. What the magistrate may do is not for me to say," and with calm dignity the marquis stepped across the threshold.

The Jew reflected. If a summons was applied for, no matter on what grounds, the facts would come out. The American would see a report of the case and come forward to say that he had paid two thousand pounds for the ring—or he might be called upon to produce the check.

He was not sufficiently well acquainted with the law to know whether he had committed a criminal offense, but he saw it would never do to allow the facts to become known to the newspapers and the public.

He called the marquis and gave him

all the money he had in the house and his check for the balance—six hundred and fifty pounds.

The American's check was crossed, and it was not till the following day that he received it back from his own bankers, who had presented it. It was defaced with the terrifying legend—"No account—Refer to Drawer."

Mr. Cohen nearly fainted. A small glass of brandy revived him somewhat, and he drove straightway to Claridge's Hotel.

On producing the dishonored check

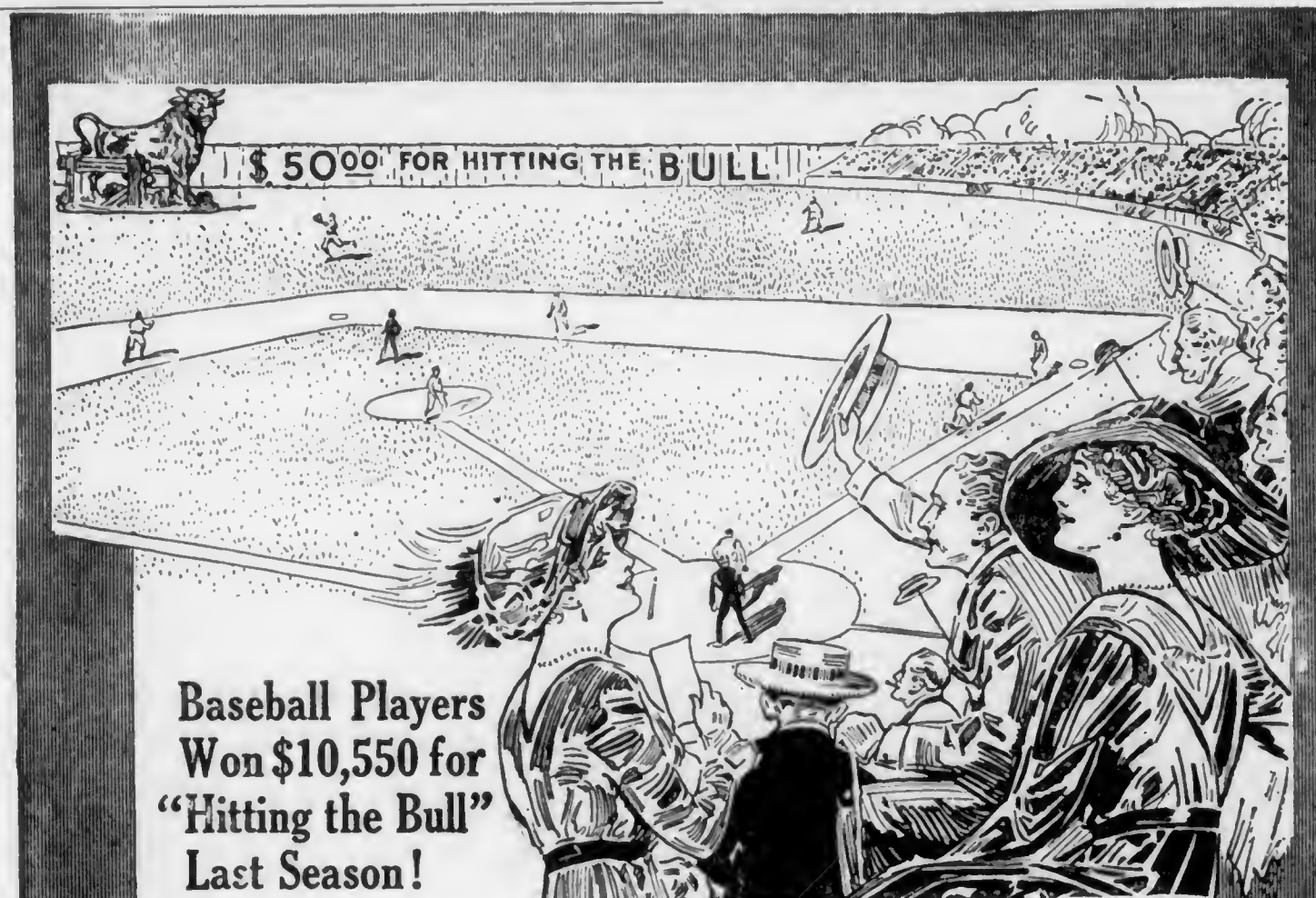
he was allowed to resume possession of the ring; but as he had suspected all along, it was an imitation ruby set in a heavy ring of twenty-two carat gold.

To apply to the police was impossible—he could do nothing without making public the fact of his own attempted

fraud. He engaged a private inquiry agent, who succeeded in discovering that the bogus check had been taken from a check-book stolen some months before—and that was all.

His own check had, of course, been cashed as soon as the bank opened in the morning; and the marquis has not been seen since in London. Indeed, Mr. Cohen is by no means sure that if he met him he would dare to make any charge against him.

How was he to prove that he had any connection with the writer of the bogus check? And yet at the back of Mr. Cohen's mind there lurks a haunting suspicion that the owner of the ring was an actor of very fair ability, and, as a matter of fact, the Marquis de Sarmose and the American millionaire were one and the same.



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PHILADELPHIA PRODUCE

Philadelphia, Pa., Sept. 1, 1913.
Good farm butter sold at old prices, but much of the receipts was of poor quality and sold at indifferent prices. Fine new-laid eggs receipts light, with a fair demand. Most of the receipts included head quality receipts were scarce and commanded good prices. Fruit and vegetables continue to move at fluctuating prices.

Butter.—Western creamery, 32c; extras, 30c; firsts to seconds, 28c to 30c; special prints, 36c to 40c; near prints, 32c.
Cheese.—New York full cream, 10c; do. fair to good, 15c to 17c.
Eggs.—Candied, 30c to 35c; do. extras, 31c. Current receipts at \$8.10 per case.
Poultry.—Fowls, 16c to 18c; old roosters, 12c to 15c; pigeons, 12c to 25c; young, 18c to 20c.
Dressed Poultry.—Western fowls, 18c; roosters, 16c; chickens, 20c to 22c; squabs, \$2.00 to 4.50 doz.

Vegetables.—White potatoes, Jersey, new, 40c to 45c basket. Onions, 75c to \$1.00 basket. Tomatoes, 35c to 50c per 5-lb. basket. Eggplant, 10c to 20c basket. Cabbage, 20c to 30c basket. Lettuce, 15c to 20c basket. Beans, 25c to 30c per 5-lb. basket. Sweet potatoes, 12c to 15c per 5-lb. basket. Lima beans, 25c to 30c per 5-lb. basket. Corn, 35c to 40c per 5-lb. basket. Squash, 15c to 20c per 5-lb. basket. Cucumbers, 25c to 30c per 5-lb. basket. Celery, 15c to 20c per 5-lb. basket. Fruit.—Apples, 25c to 30c per 5-lb. basket. Peaches, 10c to 15c per 5-lb. basket. Pears, 10c to 15c per 5-lb. basket. Plums, 10c to 15c per 5-lb. basket. Grapes, 10c to 15c per 5-lb. basket. Strawberries, 10c to 15c per 5-lb. basket. Raspberries, 10c to 15c per 5-lb. basket. Blackberries, 10c to 15c per 5-lb. basket. Currants, 10c to 15c per 5-lb. basket. Elderberries, 10c to 15c per 5-lb. basket. Huckleberries, 10c to 15c per 5-lb. basket.

Washington, D. C., Sept. 1, 1913.
Eggs.—Nearby, firsts, per dozen, 28c; second, per dozen, 25c.
Cheese.—New York, new, per pound, 15c; tub, 16c to 18c.
Butter.—Best prints, per pound, 30c; tub, 30c to 32c; process, 27c; undergrades, 25c.
Live Poultry.—Hens, per lb., 15c; roosters, 10c; springers, 10c.
Vegetables.—Potatoes, 10c to 15c per 5-lb. basket. Onions, 25c to 30c per 5-lb. basket. Lettuce, per basket, 15c to 20c. Cabbage, 20c to 30c per 5-lb. basket. Beans, 25c to 30c per 5-lb. basket. Sweet potatoes, 12c to 15c per 5-lb. basket. Lima beans, 25c to 30c per 5-lb. basket. Corn, 35c to 40c per 5-lb. basket. Squash, 15c to 20c per 5-lb. basket. Cucumbers, 25c to 30c per 5-lb. basket. Celery, 15c to 20c per 5-lb. basket.

York Produce Market
The markets were without unusual interest the past week. Buying was brisk in some things while in others it was light. The quotations are rather for a tight money situation over the fall and winter.
Eggs.—28c to 30c; do. 35c; separator, 33c to 35c. Milk, 5c per qt.
Poultry.—Hens, 12c to 14c; do. 15c; roosters, 10c to 12c; do. 13c; springers, 14c to 16c. Dressed poultry, 50c to 60c each.
Vegetables.—Potatoes, new, 10c to 15c per 5-lb. basket. Onions, 25c to 30c per 5-lb. basket. Lettuce, per basket, 15c to 20c. Cabbage, 20c to 30c per 5-lb. basket. Beans, 25c to 30c per 5-lb. basket. Sweet potatoes, 12c to 15c per 5-lb. basket. Lima beans, 25c to 30c per 5-lb. basket. Corn, 35c to 40c per 5-lb. basket. Squash, 15c to 20c per 5-lb. basket. Cucumbers, 25c to 30c per 5-lb. basket. Celery, 15c to 20c per 5-lb. basket.

Philadelphia Live Stock
Philadelphia, Pa., Sept. 1, 1913.
Cattle.—The better class ruling steady with the lower grades closing strong at the prices. Virginia and Ohio branders most in evidence. Cows and calves of the desirable sorts commanded fair rates.
Hogs.—Receipts for the week were 3,907 head, as against 2,217 head last week. Market steady. Steers, 10c to 12c; hogs, 10c to 12c; pigs, 10c to 12c. Choice steers, 12c to 14c; hogs, 12c to 14c; pigs, 12c to 14c. Good to choice, 10c to 12c; hogs, 10c to 12c; pigs, 10c to 12c. Medium to good, 8c to 10c; hogs, 8c to 10c; pigs, 8c to 10c. Common to medium, 6c to 8c; hogs, 6c to 8c; pigs, 6c to 8c. Light to medium, 4c to 6c; hogs, 4c to 6c; pigs, 4c to 6c. Very light, 2c to 4c; hogs, 2c to 4c; pigs, 2c to 4c. Cull, 1c to 3c; hogs, 1c to 3c; pigs, 1c to 3c. Sheep and lambs receipts were 20,153 head. Market higher. Fair supply. Market higher. Choice lambs, 10c to 12c; hogs, 10c to 12c; pigs, 10c to 12c. Good to choice, 8c to 10c; hogs, 8c to 10c; pigs, 8c to 10c. Medium to good, 6c to 8c; hogs, 6c to 8c; pigs, 6c to 8c. Common to medium, 4c to 6c; hogs, 4c to 6c; pigs, 4c to 6c. Light to medium, 2c to 4c; hogs, 2c to 4c; pigs, 2c to 4c. Very light, 1c to 3c; hogs, 1c to 3c; pigs, 1c to 3c. Cull, 1c to 3c; hogs, 1c to 3c; pigs, 1c to 3c.

Wilmington Produce
Wilmington, Del., Sept. 1, 1913.
There is a large receipt and demand for grapes. Pears for preserving are also in demand. Cantaloupe supply dwindling and quality deteriorating. Prices in produce fluctuating.
Butter.—Print label, 38c to 45c lb. Creamery roll, 30c to 35c.
Poultry.—Chickens, dressed, 18c to 20c; broilers, 22c to 25c; ducks, 16c to 22c lb.
Eggs.—27c doz.
Vegetables.—Potatoes, new, 10c to 15c per 5-lb. basket. Onions, 25c to 30c per 5-lb. basket. Lettuce, 15c to 20c per 5-lb. basket. Cabbage, 20c to 30c per 5-lb. basket. Beans, 25c to 30c per 5-lb. basket. Sweet potatoes, 12c to 15c per 5-lb. basket. Lima beans, 25c to 30c per 5-lb. basket. Corn, 35c to 40c per 5-lb. basket. Squash, 15c to 20c per 5-lb. basket. Cucumbers, 25c to 30c per 5-lb. basket. Celery, 15c to 20c per 5-lb. basket.

Baltimore Produce
Baltimore, Md., Sept. 1, 1913.
In the Baltimore wholesale markets flour was firm. Wheat closed quiet and steady. Corn was firm but nominal. Fruit and vegetables in good movement at steady prices. Poultry steady.
Butter.—Creamery, fancy, 20c to 22c; do. choice, 24c to 26c; prints, 20c to 22c; black, 28c to 30c; Maryland and Penna. rolls, 21c to 23c. Process, 24c to 26c.
Eggs.—Nearly, firsts, 25c; western, 25c; southern, 24c to 26c.
Live Poultry.—Hens, 15c; chickens, 12c; old roosters, 10c; ducks, 12c to 15c.
Vegetables.—Potatoes, white, 17c to 20c per 5-lb. basket. Onions, 25c to 30c per 5-lb. basket. Lettuce, 15c to 20c per 5-lb. basket. Cabbage, 20c to 30c per 5-lb. basket. Beans, 25c to 30c per 5-lb. basket. Sweet potatoes, 12c to 15c per 5-lb. basket. Lima beans, 25c to 30c per 5-lb. basket. Corn, 35c to 40c per 5-lb. basket. Squash, 15c to 20c per 5-lb. basket. Cucumbers, 25c to 30c per 5-lb. basket. Celery, 15c to 20c per 5-lb. basket.

Pittsburgh Live Stock
Pittsburgh, Pa., Sept. 1, 1913.
Cattle.—With a fair supply of cattle on sale all this week the market ruled fairly active at about steady prices on fat tidy cattle. Other grades, especially the coarse, weighty ones, sold from 10 to 25 cents lower, with quite a number of medium and weighty cattle on sale. Heifers were in liberal supply but not much demand. Receipts were light today, and the market was steady. Good to choice, 10c to 12c; hogs, 10c to 12c; pigs, 10c to 12c. Choice steers, 12c to 14c; hogs, 12c to 14c; pigs, 12c to 14c. Good to choice, 10c to 12c; hogs, 10c to 12c; pigs, 10c to 12c. Medium to good, 8c to 10c; hogs, 8c to 10c; pigs, 8c to 10c. Common to medium, 6c to 8c; hogs, 6c to 8c; pigs, 6c to 8c. Light to medium, 4c to 6c; hogs, 4c to 6c; pigs, 4c to 6c. Very light, 2c to 4c; hogs, 2c to 4c; pigs, 2c to 4c. Cull, 1c to 3c; hogs, 1c to 3c; pigs, 1c to 3c.

Pittsburgh Hay and Grain
Pittsburgh, Pa., Sept. 1, 1913.
Demand strong for all grades of timothy hay, while receipts are light and higher prices are realized. Market higher. Some demand for good green clover, but not enough to encourage heavy shipments. Hay demand has fallen off. Market easier.
No. 1 timothy, \$16.50 to 17.00; No. 2, do. \$15.50 to 16.00; No. 3, do. \$14.50 to 15.00; No. 4, do. \$13.50 to 14.00; No. 5, do. \$12.50 to 13.00; No. 6, do. \$11.50 to 12.00; No. 7, do. \$10.50 to 11.00; No. 8, do. \$9.50 to 10.00; No. 9, do. \$8.50 to 9.00; No. 10, do. \$7.50 to 8.00; No. 11, do. \$6.50 to 7.00; No. 12, do. \$5.50 to 6.00; No. 13, do. \$4.50 to 5.00; No. 14, do. \$3.50 to 4.00; No. 15, do. \$2.50 to 3.00; No. 16, do. \$1.50 to 2.00; No. 17, do. \$0.50 to 1.00; No. 18, do. \$0.50 to 1.00; No. 19, do. \$0.50 to 1.00; No. 20, do. \$0.50 to 1.00; No. 21, do. \$0.50 to 1.00; No. 22, do. \$0.50 to 1.00; No. 23, do. \$0.50 to 1.00; No. 24, do. \$0.50 to 1.00; No. 25, do. \$0.50 to 1.00; No. 26, do. \$0.50 to 1.00; No. 27, do. \$0.50 to 1.00; No. 28, do. \$0.50 to 1.00; No. 29, do. \$0.50 to 1.00; No. 30, do. \$0.50 to 1.00; No. 31, do. \$0.50 to 1.00; No. 32, do. \$0.50 to 1.00; No. 33, do. \$0.50 to 1.00; No. 34, do. \$0.50 to 1.00; No. 35, do. \$0.50 to 1.00; No. 36, do. \$0.50 to 1.00; 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able a product of selfishness, partly to serve the man who he, too, is vainly seeking publicity for his own will. This man has never tried crimson clover or any of the other legumes for the same purpose, and has no means of making comparisons; so in the absence of proof he is firm in his belief in daisies. As will be noted, the daisies are in full bloom, and before being plowed many blossoms were matured. While the crop provided a mass of humus, it also gave a crop of weed seeds which will give trouble throughout the entire rotation. Also, the daisies returned nothing to the soil which they did not take out in making their growth, while a leguminous cover crop would have given an increased amount of humus, would have helped in suppressing the weeds and would have added to the store of nitrogen in the soil. The cost of preparing the seed bed and sowing a leguminous crop is largely offset by the saving in weed



A FIELD OF DAISIES—WEEDS. AN EXPENSIVE COVER CROP.

such escaping criminals. The law should catch up with the times, and, going still further, overtake the criminal wherever he may be along the road. The man who sped around a blind corner, taking a chance on the road being clear, ought to serve a term for manslaughter for his particular killing.

Are our minds so warped by the prevalence of the automobile and by the fact that its use is largely confined to the wealthy class that we can not mete out justice and afford protection for those whose rights are being contemptuously disregarded? The cases I have given are a few of many. They illustrate some phases of the present highway problem. They are worth considering, even from a motorist's point of view. Ask the State Highway Department to take action in any specific case and read your answer well. We have ceased reporting vicious practices and individual names. We prefer not to waste postage.—A. B. Ross, Bedford Co., Pa.

WEEDS AS COVER CROP

The merits of weeds as a cover crop have frequently been discussed. There are many farmers, and particularly orchard men, who argue that a good growth of weeds gives all of the benefits of a cover crop, and is much cheaper because of the saving in not

having to sow seed. The illustration on this page shows a crop of daisies which were permitted to take possession of the field. This field was plowed shortly after the photograph was taken, and was planted to tomatoes. These tomatoes made good growth and are giving an excellent yield, and the farmer is converted to the questionable belief that a cover crop of daisies is one of the best preparations for tomatoes.

This man has never tried crimson clover or any of the other legumes for the same purpose, and has no means of making comparisons; so in the absence of proof he is firm in his belief in daisies. As will be noted, the daisies are in full bloom, and before being plowed many blossoms were matured. While the crop provided a mass of humus, it also gave a crop of weed seeds which will give trouble throughout the entire rotation. Also, the daisies returned nothing to the soil which they did not take out in making their growth, while a leguminous cover crop would have given an increased amount of humus, would have helped in suppressing the weeds and would have added to the store of nitrogen in the soil. The cost of preparing the seed bed and sowing a leguminous crop is largely offset by the saving in weed

I gave it a light harrowing before sowing, but I do not think it was needed, as the soil was in fine tilth; not a lump discernable anywhere. Fearing that a rain might delay the work, I sowed the strips as fast as plowed, and harrowed in the seed. It was past the middle of October when the last strip was sown, the earlier sowings being already up with different degrees of growth. The variety sown was the Mediterranean, which was considered the hardest for late sowing, and the yield was 25 bushels per acre. The first sowings appeared to have yielded rather the best.

Later I sowed a larger field on corn stubble in the fall, in the same manner, with Soule wheat, a white variety of taller growth and larger yield than the Mediterranean. The corn had been grown on river flats, soil ground, manured in the fall and winter, and was too rich for wheat. The yield was fair, but it grew too tall and lodged badly. I have sown corn ground several times since then in the same manner with good results. All that is needed is that the plants should obtain growth enough before winter to cover the ground and protect the roots.

The objection to sowing the corn ground in the fall is that the growing grain has to be driven over with team and wagon to draw off the corn and stalks, and the strips on which the shocks stood plowed in the spring and sown in some other crop. In order to seed the field with clover it is necessary to sow it again with wheat or rye. Some writers tell about sowing wheat among the standing corn before the last cultivation, which covers it. In such case, the wheat plants are trampled upon in cutting up the corn, and crushed into the earth by being driven over to draw off the corn and stalks. More than this, such early sowing is likely to get too much growth or be injured by the fly.—J. W. Ingham, Bradford Co., Pa.

CO-OPERATION IN SELLING

For the sake of illustration, let us call to mind some country community, typical of many thruout the Atlantic seaboard and Middle States, situated, perhaps, four miles from a thriving city. The settlement is made up of a dozen small farmers who are engaged in producing fruits, vegetables, milk, eggs and other products for the nearby city. We will suppose that six of these farmers are selling milk in the city, driving in each morning and supplying a string of customers, we will say, putting in six hours daily to dispose of their product.

Some such state of affairs can be found in the vicinity of any city or large village. Now, suppose these six milk producers were to combine and pay one man, or perhaps two, to handle all of the milk, the others paying a reasonable commission for the work. Two

men and four horses could easily do the work that six men and six horses are now doing. This scheme would leave four men free to engage in other branches of farming, and the time of each should be worth more than the small commission paid to the other man for handling the milk. Two men would, therefore, have profitable work with the milk teams.

In vegetable growing we will say six men are engaged. The same plan of co-operation could be extended to this branch of farming. I know of a case where one man had a string of retail customers, supplying them with fresh products three times per week. His neighbors were selling for any price offered by the dealers. Co-operation got into the air in that community and the result was that Mr. B. contracted with two or three of his neighbors to supply certain products for his customers. He obtained other customers, and before long his auto truck was seen every day whirling swiftly toward the city, piled high with vegetables, a large part of which he was hauling from his neighbors on commission.

In this case the neighbors were getting considerably more for their produce, after paying a commission for selling, than they formerly got from the middlemen. The time of perhaps five or six men was required for three-quarters of the day, three or four times per week, to sell what in reality were paltry products. Now that one man does all the marketing the three or four others have time to devote to growing more and better vegetables. It is plain to see, therefore, in this case that co-operation meant, not only better profits and less cost in handling, but largely increased production.

Along the main roads leading to any large city or village which affords a reasonably good market, one will note strings of small growers driving into town every morning to sell their wares. Few if any will have a full load. The most of them will have about half what they might reasonably haul, this because they could not gather up, on their individual farms, a full load, and neither could they wait a day or two longer because much that was already ripe would spoil. It was therefore necessary to make the trip of 2, 5 or even 10 miles if anything at all were to be realized on the produce. What a waste of labor! Co-operation could keep half of these men at home engaged in profitable work, work that is oftentimes much delayed or even neglected because the farmer "had to go to market."

Where there are four or five small farmers living in one community, or living along one cross-road, let them form a co-operative selling society. One man may be chosen to do the selling, the others paying a commission. This man can often be chosen because of special fitness for the work. He can then afford to provide an attractive team. He might try catering to the select retail trade and make regular trips. I am sure we would soon see fewer abandoned farms. The eastern farmer has a great opportunity opening before him today, because of the low prices of much desirable land and their nearness to market. He must adopt scientific methods and co-operation. This latter will help him to get some of the profits which now go to the middleman.—Charles H. Chesley, New Hampshire.

DOES DEEP PLOWING PAY?

Even with the general knowledge among advanced agriculturalists that deep plowing is beneficial, considerable comment has been expressed over the wonderful results of some experiments conducted by the Kansas Agricultural

Experiment Station to demonstrate the results of deep and early plowing. Here are these results, as obtained from one-acre plots of soil of the same kind: Plowed September 15, 3 inches deep, 16 bushels; July 15, 3 inches deep, 22 bushels; August 15, 7 inches deep, 33 bushels; July 15, 7 inches deep, 35 bushels. The lots were continuously used for wheat. On land where crops were rotated, the difference was much less, particularly if it received a deep and thorough plowing once in three years. No fertilizer was used in the preparation of the soil.

Our Farm Counselor

By R. P. Kester, Penna. Farm Advisor on Soils and Crops.

Odious Comparisons.

The usual amount of matter is being written by the penny-a-liners about the impoverishment of the soil and the inefficiency of American farmers when compared with European farmers. It is time there was a recognition of the fact that, in general, American farming methods have been improved and many of the wasteful and destructive practices have given place to better methods, and soil depletion has been, in a great measure, stopped.

The observing traveler will see better crops and more prosperous farm homes in almost every part of our country than were seen 10 or 15 years ago. The average yield per acre is greater and the average farmer endeavors to apply more intelligent methods in order to conserve and increase the fertility of his soil. The experiment stations, agricultural colleges, farmers' institutes, farm papers, etc., are aiding in this work, and any but the too-impatient or the uninformed may well take heart at the progress. It cannot be stated too emphatically that the American farmer is doing better farming today than he ever did before.

In comparing American with European agricultural conditions we should remember this fact: In Europe, labor is one of the cheapest and most plen-

eight or nine inches deep, underlain with shale. He desires to know whether the use of dynamite is practicable in subsoiling the lawn part and for making the holes for the trees.

It will depend entirely upon the character of the shale as to whether it will pay to subsoil for the lawn. If the shale is a stratum of slate so close and tight as to be impervious to water, not permitting moisture to move either up or down thru it, there is no doubt but what dynamiting would be efficient in breaking it up. Make holes with a crow-bar 20 or 30 feet apart each way, and about 30 inches deep. Place one-third of a stick of dynamite in bottom and tamp full of dirt.

Dynamite is an all-right method of making holes in which to plant fruit trees whatever may be the character of the subsoil. Make holes as above, but only about 18 inches deep. Do not tamp more than two or three inches of dirt on the dynamite, as you want it to blow the dirt up and out. Holes for trees should be blown in the fall, and trees set in the spring so as to allow the earth to settle. If trees are set soon after holes are made, the ground beneath settles away, leaving air spaces and trees are liable to dry out and die.

Clover Failure.

T. J. B., Berks Co., writes that he has had two failures in sowing clover. The ground was limed, using 40 bushels of lime to the acre. Soil is gravelly loam and has produced fairly satisfactory crops of grain. Light application of manure was made, but no fertilizer was used. The only spot upon which clover is growing is where a pile of brush was burned.

The indications are that soluble potash is needed. This element is demanded by clover. One of the chief effects of lime is liberating plant food and ordinarily it does this to an extent sufficient to insure the growth of clover. In this instance, however, it seems to have failed, probably because the supply of potash is small or in a very insoluble condition. I would advise the use of 30 or 40 pounds of muriate or sulphate of potash to the acre, or 250 pounds per acre of a fertilizer containing 8 or 10 per cent. of potash.



WORKING DOWN THE WHEAT GROUND.

tiful commodities, while agricultural land is the rarest, comparatively. In America, the reverse is true. Intensive farming can and must be done in Europe, but many of their practices and methods would be impracticable here because of cost of labor. It is true that we must come gradually to a more intensive agriculture in this country, but until the farm labor problem is solved, increased production must be the result of better methods and the intelligent application of labor rather than from a greater amount of labor.

Dynamiting Sub-Soil.

An inquirer from Allegheny county writes that he has two acres which he desires to make into a lawn, and three acres of the same land are to be used as an orchard. The top soil is

Hold On to the Life-Line.

I visited a young man the other day who recently bought the little farm where he lives. He intends developing it into a fruit and truck farm. He now has a job near by which pays good wages and at the same time allows him some time occasionally to work on his own place. The soil is well adapted mechanically and by exposure to the purpose for which he intends to use it, but it is in a run-down condition. He would like to drop all other work next year and devote all his time to his own place. My advice to him was, don't do it. He told me that he has no money, but is ambitious and anxious to get to work for himself. His soil needs lime and humus. These cost money and time. Improving land is comparatively slow work. If a living and expenses must be made from the start, it is an up-hill job. Better work away as at present, growing sods and cover crops to plow down, buying lime and other needed supplies until the soil is in a more productive condition. With intelligence and push, the rest is so much easier.

How often we see the discouraging prospect of a poor man on a poor farm, trying to make ends meet and improve his land. The trick can be done, but at least four traits of character are necessary: Intelligence, patience, economy, and unlimited perseverance. Hold on to whatever regular income is received until the soil is in such condition that it will be safe to cast your full burden upon it.

THE BUCKWHEAT CROP

Altho known as a "lazy man's" crop, a "poor soil" crop, etc., buckwheat fills an important place in agriculture. It brings quick returns, and is always salable at a fair figure. There is not always a regular market for other grains. The plant is a soil loosener and cleaner, few weeds being able to withstand many crops of buckwheat. Even quack grass will not long stand a rank growth of this grain. The cheapest fertilizers on the market are suitable for it, and invariably add greatly to the product. The bill for fertilizer is soon met by selling the grain. The straw has no great feeding value, but some prefer it to other straw. To bed pigs, it has an irritating effect, which is very undesirable. The same effect is produced by letting little pigs run in a field of buckwheat.—C. M. Drake, Ontario Co., N. Y.

Striped Cucumber Beetle.—What will kill or prevent damage by the striped cucumber beetle? J. L. L., Mountville, Pa.—The striped cucumber beetle is one of the most troublesome garden pests. It is yellow and black striped, about two-fifths of an inch long, which attacks melons, cucumbers and squashes as soon as they are out of the ground. There is but one brood of these beetles per year in the northern states. When possible, young plants should be protected with wire or cloth screen until they have got a start. Where this is not possible, it is well to plant an excess of seed to allow for the thinning that the pests will do. It is extremely difficult to poison the beetles, because they will hunt out the parts not coated with the spray material. The best spray is 1 or 2 pounds of arsenate of lead to 50 gallons of water, applied thoroughly. Dry-slaked or air-slaked lime, with flowers of sulfur, or road dust and tobacco dust will drive them away temporarily. Clean up the beds every fall to prevent outbreaks the next season.

Importation of Trees.—The U. S. Department of Agriculture announces that 3,779,041 trees and 15,040 pounds of tree seeds were imported into this country during the past fiscal year. Most of these are stock of foreign origin, comprising certain species that do not grow in this country.

Horticulture

BOX PACKING APPLES

One way to compete with the big apple crops, which in the opinion of experts are bound to come within the next few years, is to improve the marketing methods. While it is undoubtedly true that the great bulk of the eastern apple crop will be put on the market in barrels, the product of the best orchards and the apples which will make the profits will be those which are box-packed.

The great favor with which the western boxed apples have met is not due primarily to their quality but because they appeal to the select family, hotel and fruit stand trade. A box is easily handled, presents a neat appearance when opened, the fruit is not apt to spoil before being used, it is an original package direct from the orchard, and it gives a certain guarantee of quality; as each apple was handled and inspected before being packed.

Realizing the importance of box packing, experts were employed last fall and winter to give demonstrations at some of the important horticultural meetings in the east, at the various farmers' weeks at the agricultural colleges, and by some of the leading orchardists to

packer is a right or a left-handed man. The hand most used must be next to the table so that it can pick up the apples. Two men can work at each table.

At present there is no uniform box, although attempts have been made to secure national legislation for a standard. Canada has a law making a legal apple box 10x11x20 inches, inside measurements, which contains 2,200 cubic inches, or a little over a struck bushel. In the western orchards two differ-

orally use their eyes to determine what class an apple belongs in. A home-made grader can be used by the beginner, and after a little practice his eye can detect size close enough for good packing. The grader is made out of a thin board, thru which holes of different diameters have been made, with regard to what style pack the apples will be used. Those to be used for the five-tier pack will go thru a hole in the grader which is two and three-eighths inches in diameter. For the four and

and three tiers of five apples each, it is possible to get only 45 in a standard box. To have 200, the greatest number generally packed in a box, it requires five layers and four and one-half tiers of eight apples each in a special box. Between these extremes come the others, four straight and 12 diagonal. The three and one-half tier diagonal pack, holding from 64 to 120 apples, is the style most used.

In the illustration showing the three types of packs, the box on the left is a three and one-half tier, or 2-2 diagonal pack; the middle one is a four-tier straight pack, and the one on the right is a four and one-half tier, or 3-2 diagonal pack. The beginner asks, why is it called a three and one-half tier pack when there are four rows of six apples each on the bottom layer? There are only four rows because the apples are set on the diagonal and fit into each other. Four apples set straight, as in the middle box, would not go in, and three apples set straight would not be enough; so, as it would require three and one-half apples set straight, it is called a three and one-half tier pack. In the case of the third box, five apples across would be too many and four would be too few, but four and one-half will just fit.

One might think that wrapping each apple in paper with a trade-mark on it is done only for the benefit of the advertisement. The real object is to protect the apples, and any apple fit to put in a box ought to be wrapped. White paper of newspaper grade, cut into sheets 8x10, 10x10 or 11x11 inches, according to the size of the apples, is used for this purpose. The paper forms a cushion between the apples, acts as an absorbent if decay starts, helps maintain an even temperature in cold storage, retains the aroma and presents a neat and uniform appearance when the box is opened. The neatest pack is made by using the size paper which will just cover the apple and double over so that the ends will hold together. To have the wrappers handy for the packer, a hole slightly larger than the size of the paper is made and fastened to the side of the box with broad right-angle hooks. As an aid in picking up the papers, the packer wears a rubber cot on the thumb of his left hand.

In starting to pack the three and one-half tier box, after the lining paper has been put in and the paper had attached to the side, the packer stands at the table as shown, and with his right hand picks up an apple, slightly smaller than the average, while his left hand is picking up a piece of paper. He then puts the apple in the palm of his left hand, and closing this hand over it brings the edges of the paper up so that he can gather them in his right hand, and after giving them a twist, places the apple in the box, as shown in the diagram at 1. The side of the apple which was wanted up in the box was put flat in the palm, and the twisted ends come opposite and form a cushion between it and the bottom of the box. The next three apples must also be slightly smaller than the average, or if they are not perfectly round, they can be set on the flat side, so as to keep the ends of the pack low, and are placed in the positions 2, 3 and 4. The proper selection and placing of the first and last four apples in each layer is very important, as it is the key to the bulge in the finished pack. To have just the right bulge, one inch and a half, is one of the tests of a good pack, and it can readily be accomplished with practice. The fifth and following apples until the last four are reached should be standard size, and are put in according to the numbers shown. When a layer is finished it should fit so tight that the box can be stood on end and the apples will not fall out.

The second layer is started by placing the first apple in the lower left-hand corner at A and the second one at B, just over the hollow formed by apples 1, 2 and 4. From this beginning the others are continued the same as in the first layer. When the box is finished, no two apples are directly over each other, but fit snugly together and will receive little damage from bruising. Each layer should have the same number of apples, and when the box is full the number of apples which it contains and the name of the variety should be placed on the outside. The paper had is now removed, the lining papers folded over the top and the box carried to the lid press to have the cover put on.

The straight pack is very easily done by starting in one corner, filling out each row until the box is full. Allowance must be made with the end apples for the bulge, the same as in the diagonal pack. In the straight pack every apple comes in direct contact with every other one, so that it is almost impossible, without bruising them, to make as tight a pack as with the other style. The apples are especially subject to bruising when the lid is put on, as each one on the top layer represents a solid pile to the bottom of the box.

A lid press can be made at home, but there are a number of makes on the market which work satisfactorily and are not very expensive. The object is to hold the box by the heavy end pieces and put the lid on so that it acts as a spring to keep the contents tight. The lids are generally in two pieces of scant one-quarter inch board. In order to give a better nail hold, a cleat of soft wood, three-quarter inch wide, one-quarter inch thick and as long as the width of the box is inserted in wire holders on the clamps of the press. The two board covers are laid on the top of the box, and by a pressure with the foot the clamps come down and draw the ends of the lid down to the box. Four 7-penny cement-coated nails are then driven in each end thru the cleats and the lid. Putting the cover on in this way reduces the inch and a half bulge on the top of the box to three-quarters of an inch, and makes the same bulge on the bottom. The spring thus formed takes up any shrinkage which might occur in storage or transit and keeps the contents tight. The boxes should always be handled and piled on their sides, so that it is well to letter them on the side and mark "This side up."

Two trays placed to the left of the press comprise the nail holder. An upper one has a series of open grooves in the bottom large enough for the shank of the nail to go thru but not the head. This makes all the nails hang in an upright position within easy reach of the operator, so that he can readily slide one out and quickly drive it into place. If your first few boxes do not look like the prize ones which you saw at the fruit show, do not be discouraged. The two essential things are good fruit, well graded, and a tight pack. The rest will come with practice and will repay the effort made.—Thos. H. Wittkorn, Delaware Co., Pa.

SAVING EGGPLANT SEED

We formerly saved eggplant seed by pounding each fruit with a small club until the seeds were loosened from the pulp; then the fruits were cut in slices and the seed scraped out into a bucket of water. This method was too slow and tedious, even when we wanted but a few ounces of seed. Of course, it would not pay us to purchase any of the elaborate seed saving apparatus used by seedsmen; but by imitating some of their principles we were able to adopt a method of seed saving which enabled us to secure enough seed for our own use, and also to supply what little de-

mand we have from neighbors, in a rapid manner.

We chopped the large eggplants up in pieces about an inch square by passing them thru a root cutter, such as is used in preparing turnips, mangels, etc., for cattle. A half bushel or so of these pieces were then poured into a small barrel, or keg, where they were pounded until the pulp was a jelly-like mass. For doing the pounding we used a 6x6 inch block, about four feet long, with a portion of a broom handle thru a hole in one end as a handle. As soon as the chopped eggplants had been pounded sufficiently they were poured into a barrel, into which we kept water continually running. The seed settled to the bottom of the barrel, while the pulp floated off over the rim. Care has to be taken, in pouring each successive lot of pulp and seed into the barrel, not to let it float out before the seeds have separated from the pulp; and it is well to stir it up well when first poured in, so as to assist in the separation of the seed from the pulp.

A word of caution is needed about selecting the plants from which to save seed. The "yellows" is one of the chief and most destructive diseases of the eggplant. Some years entire fields of plants die from this disease, and it seems to be transmitted thru the seed. This year one of our neighbors did not have sufficient plants for his own use, so he secured from a neighbor enough plants to set his field. The plants grown from his own seed were healthy and gave a good crop; while the plants obtained from his neighbor began to die of the yellows soon after they were set in the field. Only an occasional hill survived, so that the portion of the field set with infected plants was almost a total loss.

In selecting eggplants, therefore from which to save seed, it is very necessary to be sure that they are not infected with this disease. While this is the chief thing to avoid in selecting, it is necessary to see that the plants are thrifty and that the fruits conform in shape and color to the variety planted. We set aside more plants than we need for our seed supply, and in this way we can be very particular in selecting, without fear of being short of seed. The fruits are allowed to hang on the bushes as long as there is no danger of their decaying. They should be removed and the seed saved, however, before the cool, rainy weather, which usually comes toward the last of September.—Harris T. Kille, Gloucester Co., N. J.

FLOUR PASTE AND INSECTICIDES

Experiments conducted by W. B. Parker of the Department of Agriculture show that flour paste due to its spreading effect, increases the efficiency of lime-sulphur spray when used at the rate of 4 gallons of paste (4 pounds of flour) to 100 gallons of spray, 99 per cent. of the red spiders on hops having been destroyed against 37.5 per cent. when used without the starch. In experiments with the hop aphid it was found that flour paste was a very effective spreader for nicotine sulphate. In spraying experiments with flour paste alone, 8 pounds to 100 gallons of water and 10 pounds to 100 gallons of water, were effective, but had no effect on the eggs of the insect and in controlling the mites a second application 7 to 10 days later was necessary to catch the mites that emerge from the eggs. Flour paste has proved effective when applied to red spiders upon beans, chrysanthemums, hops, cucumbers in the greenhouse and field, pumpkins, pears, prunes, roses in the field, and violets in the field and greenhouse, but was not satisfactory with greenhouse roses, carnations or field sweet peas.

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Large biennial cultivated variety. For hay, pasture and fertilizer. Price and request. **E. Barton, Box 3, Palmouth, Ky.**

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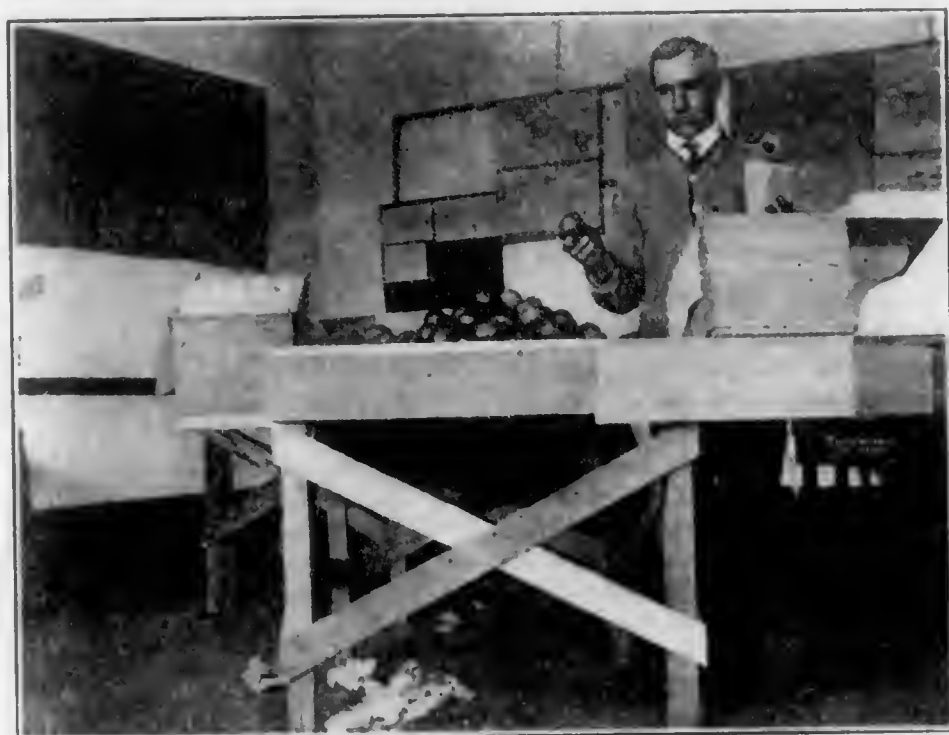
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When you have learned that crops feed from the soil just as animals feed from the crops isn't it reasonable that there is a limit to the amount of plant food in the soil, and that with continual cropping the time must come when the soil will lack a sufficient amount of one or more of the essential elements of plant food to make its cultivation profitable. Soil surveys and experiments conducted by state and national governments have proved that the average soil of the Central and Eastern states are deficient in the element Phosphorus. The only permanent source of Phosphorus. The investment of \$1.00 per acre per year in Rock Phosphate will not only restore the Phosphorus removed in the crops but will increase the fertility of the soil so that maximum crops are possible. Let us send you literature and prices. Mention this paper.

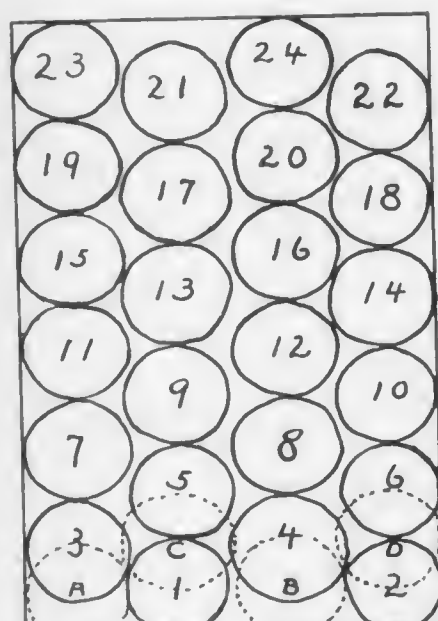
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GROUND ROCK DEPT. COLUMBIATENN.



CORRECT POSITION IN PACKING BOX APPLES.

Operator holds paper in left hand and apple in right. Note the hod for holding wrapping paper on side of box, and lining paper over side ready to cover filled box.



SHOWING PACK IN 3 1/2 TIER BOX. Numbers represent apples in first layer and letters represent apples in second layer.

go into their orchards when the crop was being gathered and instruct their men in this new art. To watch an expert pack apples in boxes the casual observer would think it a very easy operation; but if he tries to do it himself he has a higher opinion of the other man's skill. It is not a difficult thing to do, and after a few days' practice can be accomplished very satisfactorily.

If a large number of boxes are to be packed, a warm, light and convenient packing house should be located near the orchard, as the work can not be done successfully under the trees. In the Hood River Valley nothing will condemn a grower's share in a car shipment more than mud or dirt of any kind on the boxes. One man can pack from 25 to 50 boxes a day, depending not only on his skill, but how much he has to handle the boxes.

The packing table shown in the illustration is considered as standard, and is four and one-half feet square on top and three feet high. The top is made of heavy canvas, tacked taut on four sides. This does not bruise the apples when they are dumped on it, and their weight tends to stretch it so that they will keep together in the middle of the table. Projecting one foot from diagonal corners are two six-inch boards, one from underneath and one from the end, to hold the box while it is being packed. Account must be taken when nailing these pieces on whether the

ent sized boxes are used. The western "Standard" box is 10x11x18 inches, inside measurements, and the "Special" box is the same as the Canadian legal box. White pine makes the best boxes, but owing to its cost various other white woods are generally used. The ends of the box should be made from 3/4-inch boards, the sides 3/4-inch, and the top and bottom scant 3/4-inch. "Shooks" or box materials are readily obtainable from manufacturers, and can easily be nailed together with No. 5 box nails. The boxes should be lined

one-half tier pack, the apples will pass thru the two and five-eighths inch hole. Apples for the four-tier pack go thru a hole two and seven-eighths inches in diameter, while the hole three and one-eighth inches is for the three and one-half tier pack apples, and the three and three-eighths inch hole is for the three-tier pack apples. If the orchard has received the proper fertilization, spraying and thinning, the apples of each variety will run remarkably uniform, but the different varieties will vary greatly and require different style packing.



THREE STYLES OF APPLE PACK.

The box on the left shows the 3 1/2 tier or 2-2 diagonal pack. The middle box shows the 4 tier or straight pack. The box on the right shows the 4 1/2 tier or 3-2 diagonal pack.

with white paper, 26 inches long and one-quarter inch narrower than the length of the box. Two pieces are used in each box, lapped a little on the bottom and creased over the sides while the apples are being put in.

Half the work of packing apples, it is said, is to have them first well graded. Machines similar to potato sorters are used by some growers in the East, but the experts in the West gen-

There are two styles of packing in common, the diagonal and the straight. The former is preferred, because it makes a firmer pack, the apples are not as apt to bruise and because it allows a greater variation in the size of the apples. Using the two boxes of the West there are 18 different packs recognized in the Hood Valley, depending on the number of apples in the box. Packing the largest apples with three layers

The Dairy

A ROYAL PAIR

When Francis M. Jones, of Oneida Co., N. Y., on Feb. 15th, 1907, purchased from the Brookdale herd, two yearling heifers, he little knew that he had laid the foundation of a fortune, or suspected the rate of interest they would pay him, for seldom, if ever, did an investment of \$250 turn out so well.

The heifers were Tweede De Kol Lass and Tweede White Lady, and both had been bred to the then-untired Brookside herd sire, King of the Pontiacs. Lass in due time dropped a heifer. Lady was not with calf, and was returned to be bred and afterwards dropped a bull, which was named Spring Farm King Pontiac. It is with the heifer from Tweede White Lady that we are concerned for today that heifer, now named K. P. Pontiac Lass, wears the laurel crown of the dairy world.

Like a wise dairyman, Mr. Jones tested his cattle, and had them tested

until the figures stood at 44.15 lbs. butter for the seven day period and 171.50 lbs. for thirty days. She was continued on official test for one hundred days, and, altho the official figures have not as yet been given out, it is known that she produced right around 470 lbs. of butter in that period of time, or well over four and a half pounds a day. It may be here noted that Mr. Jones still retains the animals he originally purchased, now grown many times more valuable owing to the official records they have made under his feed and care.

The new Dairy Queen, like the majority of the recent record holders, is much more black than white in color, as can be seen from her picture. She is both long and deep, with a large symmetrical udder, large milk veins going well forward, and is a cow that would attract the eye in any dairy. She is of good size, altho not extra large, and is a very nice handler in every respect.

Her three-quarter brother, Spring Farm King Pontiac, is light in color, and, as will be seen from his picture, a very handsome bull, long bodied and very straight on the back and rump.



K. P. PONTIAC LASS.

under the supervision of representatives of his State College, which was the Agricultural College of Cornell University. Last year he made some wonderful records. This year success seemed to crown his every effort. Tweede De Kol Lass produced, in official test, 34.39 pounds of butter in seven days and 128.95 lbs. butter in thirty days, the butter being reckoned on the 50 per cent. fat basis, generally in use among the breeders of Holstein cattle since the Chicago World's Fair. Tweede White Lady exceeded her sister, and produced 37.45 lbs. butter in seven days and 149.92 lbs. butter in thirty days.

K. P. Pontiac Lass, now five years old, went even higher. When she reached 42.24 lbs. butter in seven days, the owners of Brookside herd and King of the Pontiacs purchased her and her three-fourths brother, Spring Farm King Pontiac, for the nice little sum of \$16,000, allowing \$6,000 for the bull and \$10,000 for the cow. Before he would sell, Mr. Jones made them agree to breed Tweede De Kol Lass to King of the Pontiacs every year as long as both the animals should live. Thus he has the chance to get a full sister to the present dairy champion, or a bull, carrying 100 per cent. the same blood, which is fully as valuable and more readily salable.

Whether K. P. Pontiac Lass resented being traded off, whether she wished to show her gratitude to her new owners, or whether she just had to produce and went right along attending to her business is hard to determine, but she steadily increased her production and record.

The so-called "milk-welts" can be distinctly seen on his side, a characteristic inherited from his famous sire—G. H. Truckell, Onondaga Co., N. Y.

FALL CARE OF DAIRY HERD

There is no time during the year when dairy cattle require better care and more liberal feeding than during the autumn months, yet very few dairy farmers appear to realize this. My own experience in feeding and caring for dairy cattle leads me to believe that more than one-half of the complaints concerning dairy cattle coming thru the winter in a poor, thin, emaciated condition is due directly to their being kept out too long in the pasture or fields and then changing them on a ration of hay, dry forage and fodders.

The cow that is allowed to run outside until cold weather comes to compel her owner to put her in the stable for winter, can not regain her lost condition and flesh and become accustomed to her change of food and surroundings in a short period of time. Then again, few dairymen practice a liberal system of feeding during the winter, more especially when the cows are dry, and for that reason they can not recover their condition, go thru the calving period and come out in condition to do efficient dairy work the following season.

The average dairy farmer takes it as a matter of course that cows usually shrink during the fall, and fall away in their flesh condition, and therefore he makes no plans to remove the cause of

the shrinkage and falling away in condition.

Every thinking farmer knows that there are certain essentials that can not be neglected at any season of the year if the cows are kept up in a condition to give milk, and that if any or all of these essentials are neglected there is sure to be a falling away in the production.

Cows that are expected to return a profit must have liberal rations and the kind of foods best adapted to their needs. They must have dry, comfortable and well ventilated sleeping places and be kept free from excitement caused by exposure and neglect. The practice of allowing dairy cows to run over the whole of the farm and be herded by dogs and children and compelled to eat frosty clover and forage can not be made to return a profit, even tho they may consume waste forage and fodders.

To supply good food for the dairy it is necessary that we exercise forethought and plan for the fall season. Grass does not grow rapidly after cold weather comes and what does grow contains but little nutriment. The dairy farmer who plans a system of supplemental forage crops to tide him over this period is wise indeed, but wiser still is the farmer who grows enough ensilage so that he can open a silo and begin feeding his cows ensilage as soon as the pastures begin to fail in the fall.

The next best feed after ensilage is oats and peas sowed along about the middle of July and allowed to stand as late as possible, and cut and hauled to the stable and fed. To make the best use of oats and peas they should be fed when in the milk stage of the oats development and this will require that the crop be sowed at various times so that one plot will be at that stage of growth at the time it is needed for feeding purposes. I generally sow one bushel of peas and two bushels of oats mixed, to the acre. With the exception of alfalfa there is no kind of forage superior to oats and peas to keep up the flow of milk and maintain the flesh condition.

For early fall feeding there is nothing superior to sweet corn. This may be sowed slightly thicker than the common field corn and it will make a good growth of fodder and furnish many ears which will add to its feeding value. Sweet corn makes a very palatable feed and the cows will consume large quantities of it; in many cases enough to make up for the deficiency of the pasture grass.

Another point that many neglect is making the cows comfortable during the fall months. I believe that as soon as freezing nights come they should be put in the stable every night, but I am in favor of allowing them to be out every favorable day, for the extreme cold winter weather which we are sure to have in this latitude compels us to

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Born Oct 4th, 1912 sire THY Abbebrook Prince—36 A R O daughter dam, a good A R O daughter of King Seals (conting). Her dam a daughter of King Seals (conting). This bull is one of the best of the "conting" line of the Holstein breed. STEVE'S BROTHERS CO., Liverpool, N. Y.

GUERNSEYS—We are offering a few Guernsey cows with Advanced Registry Records and gilt-edge breeding for sale. As stock of this description is seldom put on the market, this is a rare opportunity to purchase stock either for a foundation herd, or improvement of your present herd. We are also offering a young bull by King Massey (best), dam (red), Elsie 2744, Adv. Reg. 1908; Record 15092.35 lbs. milk, 692.57 lbs. butter fat at 4 1/2 years. For circulars giving breeding, etc., address: CHESTERBROOK FARM, Berwyn, Pa.

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We have on hand 100 choice Holstein cows, deep heavy milkers of the choicest individuality and breeding, due to freshen in September and October. Also 75 two and three-year-old heifers, nicely marked and of excellent breeding. Come and see our stock or write your needs before purchasing elsewhere. F. P. SAUNDERS & SON Cortland, N. Y.

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20 fresh cows, 60 close up cows, 40 heifers bred, 5 registered cows. 15 registered bulls, also grade weifers and bulls. REAGAN BROS., Tully, N. Y.

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Mr. J. P. Goodall of Capron, Ill., writes us as follows: "I have used International Special Molasses Feed for two years, feeding 4 pounds per cow mixed with ground corn and oats and by using your feed as above I have obtained an increase of one-third in milk production. My cows always keep healthy and eat with a relish. International Special Molasses Feed will cost only a few dollars more per ton than ground corn and oats. For each ton of International Special Molasses Feed that you will buy and use along with ground corn and oats you will make an extra profit of \$20.00 over and above all extra cost. Latest State bulletins give the following reports on their analysis of the International Special Molasses Feed: State of Pennsylvania, protein 14.63; fat 6.74. State of New York, protein 15.19; fat 6.88. This compares with an average analysis of less than 10% protein for ground corn and oats."

Jersey, protein 15.82; fat 6.02. State of New York, protein 15.19; fat 6.88. This compares with an average analysis of less than 10% protein for ground corn and oats. Ask your dealer for International Special Molasses Feed. If he don't keep it for sale, then send us your dealer's name and address—we will arrange with him to supply you.

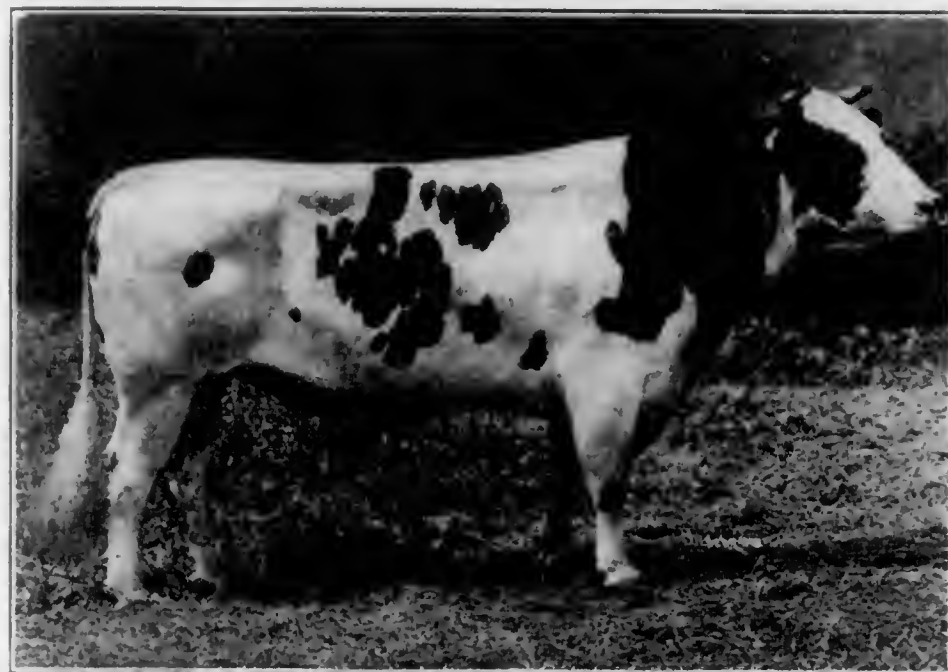
INTERNATIONAL SUGAR FEED COMPANY
MINNEAPOLIS, MINN.

keep them confined in the stable much longer than we realize. The man who allows his cows to go dry early in the fall is cultivating a habit in them that will be hard to overcome, for once a heifer or cow is allowed to go dry after being milked a few months it is very hard to make her continue her period for a longer time after she drops her next calf. Training as well as breeding influence her future usefulness.—K. M., Erie Co., Pa.

CORN IN DAIRY RATIONS

The dairy industry is almost certain to increase in this section. We are close to a number of large cities which are growing with greater or less rapidity. The demand for milk is constantly increasing, and the price is improving. It is practically impossible to maintain a dairy without depending largely upon the corn plant. Many of us still fail to appreciate silage at its face value as a dairy feed. Experiments have shown that equal quantities of corn fed in the form of silage produced nearly 13 per cent more milk daily than corn taken from the same field and fed as cured fodder.

From the comparative composition of hay and corn silage, it is reasonable to



SPRING FARM KING PONTIAC.

assume that, for a feed for dairy cattle, silage has at least one-third of the value of mixed hay. Whether it will pay to feed either to dairy cows will depend, of course, upon the quality of the corn. If, however, hay is worth \$15 per ton, silage should be worth \$5, and, at from 10 to 15 tons per acre, the returns are considerably more than from selling the grain at the railroad station.

As much can not be said of corn as a grain ration for dairy cows, especially if fed in connection with corn silage. Cows in milk require a ration that contains more or less protein. Unless grains that are usually rich in protein, like cottonseed meal, gluten meal, or soy bean meal, are fed, much corn meal can not be used. While a ration composed of 40 lbs. of silage, 12 lbs. soy bean hay, 7 lbs. corn-cob meal, and 1 lb. soy bean meal, meets all the requirements of a well-balanced ration, it is possible that there would not be enough variety to insure the best results.

A ration in which the soy bean meal is replaced by bran, and which at the same time contains a fair proportion of corn is made up of corn silage, 25 lbs.; clover hay, 10 lbs.; corn meal, 4 lbs.; bran, 4 lbs. Another, and perhaps a better one, is composed of: Corn silage, 30 lbs.; alfalfa hay, 10 lbs.; corn meal, 6 lbs.; bran, 2 lbs. Still another without corn silage, is: Clover hay, 20 lbs.; corn-cob meal, 5 to 7 lbs.; cottonseed meal, 2 lbs.

These rations are aimed for economical milk production rather than for forcing. They are intended for the cow

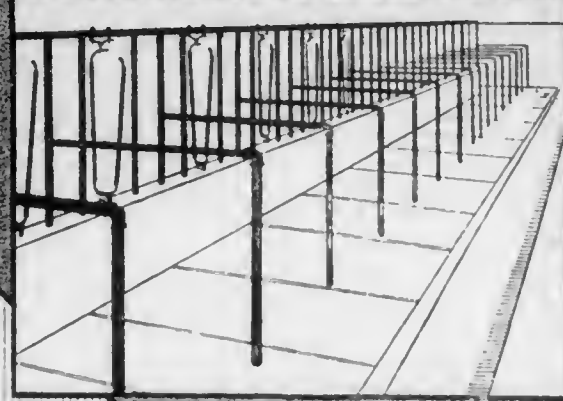
producing 11 to 15 quarts of milk per day. Allowing market prices for the feeds, other than corn, used in all these rations, it will be seen at the present prices for milk that the value of the corn fed is much greater than it brings when sold in bulk. Of course, this presupposes, and this point should be emphasized, that the quality of the cows fed is good and worthy the attention of the feeder.—H. H., Delaware.

TRAPPING FLIES

There is an old saying that there is "nothing new under the sun," but I wish to give our experience with flies. If not new we claim it is unique, and very highly satisfactory. Our barns are quite close to the house. We use fly chaser on the cows, and the flies seemed to come to the house from the direction of the barn.

We bought a few of the wire fly-traps built with a small cone within a larger one. These we baited with bread and milk and set the traps in the barn where the light was extra good. As to results, we find that but few flies reach the house, and as we have sticky fly paper on the screen doors, only a few manage to get in the house. And our barn is almost free from flies. Of

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Build one that will last all your life, your son's life, your grandson's life and then be as good as new. A good concrete stable is practically indestructible. Requires no repairs, no painting; is rat-proof, fire-proof, tornado-proof, wear-and-tear-proof.

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It is simply wonderful what the farmer can build for himself with ALPHA Portland Cement and a supply of sand and gravel or crushed stone. Send the attached coupon for a copy of the ALPHA book entitled "Concrete in the Country." Costs you nothing, and shows dozens of economical ways of improving your home and farm—directions for building floors, walks, steps, bins, troughs, tanks, posts, rollers, etc.

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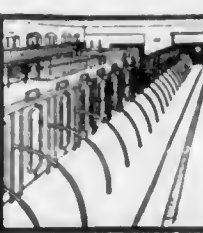
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Poultry

HOW THE FARM FLOCK HELPS OUT

In some ways this has been a pretty discouraging season for the farmer folks in our part of the country. A warm wave early in the season brought fruit trees along rapidly; then a frost came which killed almost all the apple tree blossoms and left us without hope of fruit. This was followed by another cold snap that cut down potato roots and all early garden stuff. Right on the heels of this we have been having one of the worst drouths we ever have known in this section. Oats have been badly injured, the hay crop came out a good deal shorter than it was last year, while all kinds of vegetables are in bad shape; and the worst of it is the middle of August sees us with little or no prospect of rain. The flow of milk has been shortened at least 50 percent, and this being a dairy community, we are really badly crippled.

And yet, there is a bright side to this outlook. Blessed be the man who can see it! I find a streak of sunshine in the good prices which we have been getting for eggs and broilers. The price for poultry products has kept up so far very well indeed. The quotations at the present writing are 35 cents per dozen, and the best part of it is, we are actually receiving that amount for every dozen we send to market. When you think that we have about five hundred hens and can fill a crate in three or four days, you will understand that this means something to us.

The boys are very enthusiastic in this matter of the poultry now, and they have reason to be. With the dairy business under a cloud for the time being, egg checks ranging from \$40 to \$50 a month are worth feeling proud over. There is a tendency to curtail the dairy business in the future and lay more stress on poultry; but I am not so much in favor of that, because dairying is too good a business to be lightly thrown aside. It may be we never will have another year like this.

Another thing we have to be thankful for is that our poultry have had so little trouble from disease. With so many hens and a number of flocks of chicks coming on, numbering a thousand or more, we consider ourselves fortunate, indeed, not to have lost any by disease. But we have taken a lot of pains with the hens. The young man who has the care of the poultry particularly on his shoulders is very careful to see to it that no filth accumulates in the houses, that all feed is good and pure and that the water is fresh and clean. These things do count.

Then, too, our houses have recently been improved so that they furnish pretty nearly ideal conditions. One of them has a good cement floor, while the other has a floor of gravel overlaid with earth. I do not like this as well as I would either plank or cement. With cement or boards for a floor, you can use earth, and I believe that to be a good thing, and you can shovel that off and replace it with fresh earth as fast as it gets soiled. This is fine to spread back on the land.

In the matter of light and ventilation, also, we have made a number of changes which work well. There are plenty of windows and between these we have open spaces the same size as the windows, covered over with muslin, admitting both light and air. The last house we built, put up last fall, is provided with a ventilator in the roof, which we like very well.

Another improvement of the past year has been the installation of light

ning rods on the big barn. We have debated the matter a good many years, not feeling sure that the rods would prove a good safeguard against lightning. The very best authorities we could get, however, agree that when the right kind of rods are used and these properly adjusted, there is a real protection against this source of danger. So we have used the best judgment we could in the matter of selection and had the rods put on the barn. The silo having been built since the barn was rod-ded, we are just now having that also rod-ded. Every year there are immense losses in our locality from lightning, and we have not been really easy as long as the season for thunder storms lasted. Another advantage about this is that the insurance companies this way are making a reduction in their rates where buildings are rod-ded, which looks as tho they had some faith in the system.

Still another cheering thing about the present prospect with us is that most every farmer I know of is doing something in the way of bettering his farm stock. There are more good cows in this section than ever before. A good many of these are fullbloods, and those which are not are good grades. The returns from these better cows are highly favorable, in spite of the dry weather. We are more and more coming to see that we can just as well keep fewer cows and get the same money from them as we could to load ourselves down with a lot of poor cows that may not do more than pay their own way.

There are some fine dairies of Holsteins a little north of us, where shipping milk to New York is made the specialty with farmers. The condensaries, too, like to get this milk, while those who are patronizing the creameries or making their milk into butter at home prefer the Guernsey or the Jerseys. Either of these breeds is good enough for any man.

Again, as a mark on the sunny side, we have some good corn in our part of the country. By keeping the cultivator going we have in part made up for the lack of moisture from the skies. The outlook is that if we do get rain inside of a week or ten days the corn crops will be good; and if this is so, we can get thru the coming winter, even if hay is a short crop.—E. L. Vincent, Broome Co., N. Y.

BEESWAX—HOW TO RENDER AND MOLD

Wax, as produced by the bees and worked into comb, is almost pure white, but, on being melted and cooled, is of a yellowish cast.

There are different ways of getting beeswax out of old combs, but there are some preliminary steps to be taken that should be the same in either case. The cells of old combs contain cocoons left by successive generations of young bees reared in them, and these cocoons act as a sort of sponge in soaking up the wax when it is melted. To prevent this the cocoons should be soaked with water, so that there will be no room for any wax. This can best be accomplished by breaking the combs up fine. In order to do this, the combs must be cold and brittle, and should be allowed to soak in water for two or three days. If they are kept in too cold a place the water will not soak into the cocoons so rapidly. On the other hand, the water must not be above blood heat or the wax will melt and defeat the desired end.

After the wax is thus soaked it can be gotten out in different ways, one of the easiest being by means of a cook stove and an old dripping pan. Tear open one corner of the dripping pan, put it in the oven of the cook stove, leaving the door of the oven open, and the split

corner of the pan projecting out, and place something under the corner of the pan on the floor ready to catch the wax as it runs out. Put something in the oven under the inside of the pan so as to raise it half an inch to an inch, thus allowing the wax to run down hill when it melts. Now put your soaked combs in the dripping pan, and the heat of the stove will do the rest. It may be a good plan to put a little water in the pan that sits on the floor, so the wax will more easily come out of the dish. If you melt it over again to form it into a better shaped cake, be sure not to heat it too much.

There is still another very simple method. Put the old combs into a gunny sack, tie the mouth securely, put the sack into an ordinary wash boiler, set it on a stove, fill it two-thirds full of water, and then, while it is boiling, take a common garden hoe, and crush and turn the sack of combs about. By throwing a good share of the weight of the body upon the hoe, quite a lot of pressure can be brought to bear while the combs are hot and under water. Finally, set off the boiler, and lay some stones or bricks upon the sack to keep it down in the bottom of the boiler. Nearly all of the wax will rise to the top and form in a cake. While this method may not secure quite so much wax as may be obtained with a wax press, it answers very well for the man who keeps bees in a small way.

In rendering beeswax care should be taken not to over boil it. The mealy residue at the bottom of cakes of beeswax is nothing more nor less than water beaten into a sort of meal by boiling spoiled beeswax; beeswax that has been water. Sometimes a beekeeper will spoil his entire product in this way. A good boil is all that is needed. When the melted beeswax is in the right condition, I dip off the wax into moulds made of oblong square-cornered bread pans and a small flat-sided dipper. Empty square cans, such as those used for cocoa or corned beef, one-pound size, are good. With care, nearly all the wax can be dipped in an absolutely pure condition, leaving all the dirt and a thin layer of wax. These last thin cakes of wax, with such dirt as adheres to them, are allowed to accumulate until there is enough to make a charge for the extractor, when they are remelted and treated the same as were the original combs. Of course, if one does not wish to take the trouble of dipping off the wax into molds, he can, after it has

hardened, scrape off the adhering dirt. To prevent wax from cracking when molding into cakes, lay a board on the pans and cover over tightly with a cloth, so as to keep out all cool air. The air causes the surface of the cake to contract sooner than the middle, resulting in cracked cakes.

Adulterated beeswax may be detected by chewing a small piece for a few minutes. If the wax becomes pasty and adheres to the teeth it is adulterated. Pure beeswax is very brittle, and should crumble to pieces while chewing. This is a good and quick test to use when buying wax. The comb that contains a pound of honey will, when rendered into wax, weigh about one-half ounce; or, in other words, it will require the combs of about 30 one-pound boxes of honey to make a pound of beeswax. It is quite evident, then, that very little wax is consumed by the individual when eating comb honey, and its nature being brittle, very much unlike pastry, is not at all unwholesome when eaten. Beekeepers should be careful to save everything that has wax in it, as the demand for wax is constantly on the increase.—F. G. Herman, Bergen Co., N. J.

Rearing Chickens—Circular No. 22 of the New Jersey Experiment Station on rearing chickens gives some timely hints on brooding period, feeding practice, hardening off process, growing period, and care at maturity, which poultry men would do well to look over. The circular is prepared by Harry R. Lewis of the Department of Poultry Husbandry at the New Jersey Station, New Brunswick, N. J.

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Live Stock

MORE SHEEP NEEDED ON EASTERN FARMS

Sheep have the ability to adapt themselves to general farm conditions. A small flock of well-bred sheep will benefit the farm without interfering with its general management, and at the same time will add many dollars to the annual income. The size of the flock and the place the sheep should occupy in the general scheme of management is largely dependent upon the character of the soil, the crop rotation practiced and the general adaptability of the location and buildings.

On the farm that is well drained and has sufficient pasture land, the sheep will graze profitably. Thousands of farmers who have no well defined line of live stock husbandry could make excellent profits from a flock of sheep, either by keeping them as a primary interest or as a complement to other lines of live stock breeding and feeding. On many dairy farms a few sheep could find profitable grazing in pastures too scant for dairy cattle. In this capacity a few sheep could be kept without interfering with the dairy business. Many farmers who lack adequate buildings and conveniences to make a success with

the regular hands at times when other farm activities are not pressing. Then some kind of live stock is needed on most fruit farms to utilize pastures and convert the foldings into dollars and fertility. Sheep require but little attention during the summer and fall, when the fruit business is on the rush. Some of the more extensive fruit growers have found it profitable to buy western lambs and fatten them during the winter and sell them in the spring as finished lambs. The lambs are ready along in March, so they do not interfere with the busy fruit operations. They leave rich nitrogenous manure, which may be used to advantage on every fruit farm.

Many fruit growers who have considerable rough pasture land find that they can keep the sheep thru the year and fatten late-dropped lambs during the early summer. By breeding the ewes so that they will drop their lambs late in April and early in May, the flock will need no special attention in the winter, and the loss of lambs during the weaning period will be reduced to a minimum. Lambs dropped during the late spring fatten rapidly on the milk of the ewes, together with the tender grass and green soiling crops. Such lambs often find a ready sale at high prices to hotels and private families during July and August.

On the average diversified farm there



THE COLTS PRODUCED AND WORK SECURED FROM SUCH MARES AS THESE GIVE BIG DIVIDENDS.

dairy cows might make sheep husbandry pay good profits by going to a small expense to erect sheds for their sheep. Some of the most successful flock owners have started with a limited number of good ewes and very unpretentious buildings and equipment.

The most perplexing problem of hundreds of eastern farms is to utilize the surplus grass, forage and fodder crops without buying large quantities of supplemental grain foods. In a great measure a small flock of mutton sheep will profitably turn all such crops into finished products. I know of many instances where dairy farmers are keeping flocks of from 40 to 60 well-bred ewes without seriously interfering with their dairy work, thereby adding from two to three hundred dollars to their annual income. But experience indicates that we can not safely conclude that if 40 or 60 ewes net us a profit of say \$5 a head per year, that 80 or 100 ewes will do equally well, for with the increase in numbers there usually follows troubles and loss due to parasites and disease. A small flock of high-grade mutton sheep, well handled and well fed, will give relatively greater profits than any other kind of live stock.

Many fruit growers in western New York are raising sheep to advantage, and find the business provides work for

is sufficient change of crops to produce the highest class mutton. Mutton sheep thrive best in small flocks; they are not endowed with the trailing instinct like sheep of the Merino type. The liberal feeding and years of domestication have adapted them to the small farm and fresh grazing conditions; they thrive best in rotation with plant crops. Crop rotation and change of pasture preclude the development of parasitic foes that have done more than any one thing to discourage flock owners in America.

Woods come to trouble pastures. In some instances they may be held in check by mowing; but under ordinary farm conditions they can best be held in check by letting a few sheep feed beside the cows in the pasture. Some farmers object to this, that the sheep pollute the grass so that the cattle will not eat it. This old superstition is very common, but like many other beliefs in regard to sheep it is incorrect. The sheep having sharp noses and quick motions, eat the clovers and finer grasses, leaving the coarser grasses for the cattle, so it is not wise to put more than one ewe with two cows, and that only for a few days at a time. In this way the sheep will aid in the eradication of weeds and yield a greater profit for the feed consumed than the cattle could.

The high cost of efficient farm labor is another point that adds to the value of sheep husbandry on the diversified farm. Sheep gather their own food from seven to nine months in the year, according to the locality. The food which they eat does not need to be cut, ground or steamed at any season. Except at lambing time, they only require to be fed twice a day, and the work of feeding is relatively easy, because of its simplicity.

On the ordinary eastern farm sheep should be kept primarily for mutton. Such breeds as the Shropshire, Southdowns and Hampshires, or grades of these breeds are doubtless the best. For quality and early maturity no breed excels the Southdowns, but if one wants large and robust sheep he should choose the Shropshire or Hampshire. In the production of fancy young lambs for the holiday trade the Dorsets or a cross between that breed and the Merinos will undoubtedly give the best results. The Dorsets are very prolific and on account of having the habit of breeding twice a year are excellently adapted for this special branch of mutton production.

Success with sheep is a gradual growth. It is best to begin with a few sheep and build up the flock as the experience or the size of the farm may suggest. Success does not come to the man who jumps into the business without experience. Such cases ordinarily result in losses and disappointments that, following so soon after the flock is founded, cause the owner to give up the project. A few ewes being purchased, and the selection of the breed determined, buy the best ram that can be obtained. By the best ram, I do not mean a prize-winner, but a good, well-bred typical representative of his breed. The beginner should get his experience as cheaply as possible by studying his sheep, as he can by beginning in a small way, because there are many things that can not be learned by reading.

Poor fences and mongrel dogs are the two great hindrances to sheep raising in the eastern states. Unless one is prepared to build good fences and provide a safe inclosure for the sheep at night, he might as well make up his mind not to invest in the business. There is no class of live stock that will cause as much trouble and annoyance as sheep where the unruly habit is encouraged by poor fences. The best fence for sheep is a rather closely woven wire fence, and the heavier the wire, up to a certain size, the better service the fence will give. If a few acres are securely fenced for a night pasture and the sheep kept there every night, losses will seldom occur. An orchard near the buildings that open into the main pasture makes an ideal night paddock for the flock.—W. Milton Kelly, Erie Co., N. Y.

PUREBRED DRAFTERS FOR THE FARMER

We can talk all we please, but the big horse has come to stay. There is no doubt as to the fact that small animals are to a certain extent desirable on the smaller farms; but on the average place it takes the big horse to fill the bill. Of light horses it is an easy matter to find many which can be had at a fairly reasonable figure. When you come to heavy ones, it becomes a different proposition. The market and the farms are crying for more of them and they want them of better quality than ever before. They say that two-thirds of the stations now in the country are not fit to stand in the stud. Some of these days the farmer will rise up and this two-thirds will have to be replaced by animals of a different stamp and where are they coming from? The east, the south and the west are all calling for

them. Thus the breeder must have no fear of an oversupply and a consequent drop in price for many years.

The cost of raising the purebred colts may be a little more because the average breeder will give them better care, but aside from that and the increased interest on the price invested in the mares, there is no difference. If you fear that a pair of purebred mares will not do as much work as a pair of good geldings, it is possible to use three mares. Thus you are sure of three colts a year and the three mares will do more work than any two geldings. Every farmer who keeps geldings on his farm where mares would do as well is overlooking an opportunity for annual profit. The work mares, carefully selected and properly bred, will return a yearly income in colts besides doing all the work of the farm.—C. A. W.

SHEEP

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Philadelphia, Pa., September 13, 1913.

THE ROAD BOND AMENDMENT

Length of Term of Roads Bonds

In last week's issue we pointed out some of the preliminary precautions which the experience of other states shows must be taken to insure the safe and economic use of road money raised by the bonding system. Among these were definite specifications as to term of bonds, rates of taxes to pay interest and retire principal and method of retiring principal. One of the greatest weaknesses in the present campaign for the \$50,000,000 bond issue in this state is the fact that none of these preliminary details have been worked out. The voters are simply asked to sanction the issuance of the bonds, with no assurance as to the essential details in the manner of issuing, rate of interest, sinking fund provisions, etc. All of these details are left to the state officials in case the amendment is ratified. The only indications of what this procedure may be is found in newspaper reports of tentative plans held by the officials of the present administration. The general idea, as reported, calls for the issuance of \$5,000,000 for each of the first two years; \$7,500,000 for each of the next two years, and then \$10,000,000 per year until the full \$50,000,000 have been issued. It is proposed to have the bonds bear 4 1/2 per cent. interest, and to run for 50 years with option to the state to call them in at the end of a stated period, 20 years, perhaps, or to call them in by series. This general plan, of course, is merely the tentative proposal of the present administration and may be changed in any or all of the essential details. It is this uncertainty of procedure which renders the entire proposition dangerous even though the state were ready to adopt the bonding system. There is too much left to the discretion or manipulation of future officials of unknown qualities of character and statesmanship. The cost of carrying the bonds on the plan proposed will be taken up at a later time, but it can be readily seen that the interest rates will make no small burden for future generations, to say nothing of the cost of retiring the bonds. It is further proposed to have these bonds run for a period of at least 20 years,

Pennsylvania Farmer

September 13, 1913.

and more likely for 50 years. Competent road engineers are agreed that the average life of a macadam road under average conditions is not more than 10 years. This means that the roads would have to be rebuilt at least once during the term of the 20-year bonds, and five times during the life of the 50-year bonds, and that future taxpayers would not only have the burden of taxation on the original bonds, but would also have the original problem of road building and repair. As a mere matter of justice to future generations and good business management, it would seem that if the utility created by means of the bond issue has a duration of only 10 years, then the obligation should not be allowed to survive it. In other words, if we can not construct roads that will last for more than 10 years, we have no moral right to defer the burden of taxation for such roads beyond the 10-year period.

Back to the Farm

The effect of the back-to-the-land movement, launched some years ago, has been variously estimated. Its first effect was to influence a considerable number of town and city people to migrate to the country and take up the exacting duties of farming without experience and often without capital. The inevitable failures resulting served both to check the movement and condemn the suggestion that such people return to the land. The secondary effects have been slower in developing, and it is probable that the full value of these will not be appreciated for some years to come. Dean Watts, of the Pennsylvania State College, has recently issued a statement concerning make-up of agricultural college attendance which is interesting in this connection. He gives a summary of a survey made at State College to determine whether the country districts or the cities were sending the largest number of students to agricultural colleges. This summary reads as follows:

"While an increased number of farm boys are studying scientific farming at our state colleges, the enrollment of students in agriculture in these institutions is due largely to the interest of young men who have been reared in towns and cities. For example, a survey was made at the Pennsylvania State College in May, 1913.

"Answers were received from 733 students, pursuing four and two-year courses in agriculture. Of this number only 30 per cent. were reared on farms; 6 per cent. of the students came from villages of less than 1,000 population; 12 per cent. came from towns of 1,000 to 5,000 population; 14 per cent. came from towns of 5,000 to 25,000 population; 14 per cent. came from cities of 25,000 to 100,000 population, and 18 per cent. came from cities of more than 100,000 population."

This is a feature in the back-to-the-land development which will make its influence felt in future years. There are plenty of places of usefulness for these young men while they are acquiring the necessary practical experience to make their scientific training of greatest value to themselves and to agriculture. We have met a number in recent travels over the State, and they are joining youthful and progressive ideas with the practical experience of the farmers with whom they come in contact to make a combination that will be heard from in the next few years. We met one of these men last week at a dairy farm where he was working in connection with a cow-testing association. He said: "I feel that I am doing a real service here. I can help these men in installing a system of accounts and teach them the value of records, which will be of great help to them; and I am learning things every day in farm practice and com-

munity business that will be of great value to me." That fellow appreciated that the B. S. which he had acquired from his college did not indicate "Bachelor of Science," but rather "Beginner in Science," as so aptly given us in the recent magazine discussion of the efficiency of college graduates, and he and his kind will prove themselves back-to-the-landers that are worth while.

The article on page 2 of this Control of issue directs attention to a Roads reckless and lawless use of the public roads that is more or less prevalent in all parts of the East.

The contributor writes from a town on one of the main-traveled roads east from Pittsburgh. He gives us a gruesome list of distressing accidents, but it is typical of the automobile accidents occurring on any of the main-traveled roads out of any of our large cities. It is a condition that calls for remedial regulation, and such regulation is as essential to the full development of the use of the automobile as it is to the safety of other forms of road travel. The great majority of automobile drivers are careful, conscientious and law-abiding, but they are made to suffer from the recklessness and irresponsibility of the few. The safety of the roads, as well as the future development of auto travel, demands the placing of an effectual control upon these few. And the experience of the past few years demonstrates that nothing will control this class except stiff jail sentences with stringent enforcement in every case of violation. A large percentage of this class cares nothing for a money fine. They pay their money and regard the whole incident as a joke. A few jail sentences would give the matter a different aspect, and would inspire a wholesome regard for laws that are made for all the road users. The principle of imprisonment for offense includes the protection of society from the machinations of the offenders as much as the infliction of punishment; and nowhere is this principle in greater need of application than in the case of reckless drivers. The present laws are clearly inadequate, and there must be reform in the near future. Every automobile driver and owner who has the best interests of his convenience at heart should back such a reform.

Farm Counsellors Meet.—That the State's new system of giving practical advice to farmers in the field has proved a success was demonstrated here last Tuesday when the 10 farm counsellors met for their first conference at the Capitol. The counsellors had been at work but a month, but calls are so numerous that they are booked ahead for over a month. At every visit invitations to come again had been given. Under the plan adopted requests should be made for visits direct to the office of the director, but the counsellors said that almost invariably on a visit they found people in the neighborhood who claimed their attention. It is expected that every county will be covered by the end of the year. It is the plan to have the counsellors take up farmers' institute work at the close of the open season and to supplement their talks on the platform by giving advice on problems submitted to them by farmers.

Draining More Lands.—One of the interesting matters brought out at the conference of the farm counsellors here last week was that many requests for guidance in draining land were being made. In most cases these problems arose from defective methods for keeping fields clear of water, but it was noticed by counsellors that on their rounds they were asked to give advice as to the best ways of permanently draining fields which are known as "wet" and which can be used for but little except pasture. A general disposition to drain more land effectively appeared to be shown and this was generally commented upon in view of the movement toward intensive agriculture.

Just Help Fight Fires.—A report of a suit in Bedford county which is of interest to rural land owners and residents all over the state has just been received here and shows that when men are summoned to fight forest fires they must present valid excuses. In this instance a fire warden asked the help of a number of people to put out a fire which showed signs of becoming dangerous. All responded but one man, who not only refused to go but gave no reason for refusal or asked to be excused. It cost him a fine of \$50 and \$10 costs.

Vinegar Law.—Activity of the State Dairy and Food Commissioner's agents in prosecuting persons who sell vinegar which is not true to branding and which contains chemicals, water or other matter is rapidly bringing about a situation in which there will be a demand for a standard vinegar law. The commissioner's agents have caused scores of arrests and in some cases it was found that the stuff sold as vinegar was pure vinegar of pure apple products. In several cases it was of purely chemical origin. Much of the stuff has been traced to other states.

Organizing Statistical Bureau.—The organization of the new bureau of statistics of the department of agriculture has been commenced, the first appointment being that of L. H. Wible, of McConnellsburg, who will have charge of

Surface, and it is expected to extend the work so that hundreds of additional orchards can be inspected during the winter. The appropriation for this work was allowed to remain at \$100,000, being one of the very few increases of appropriations over 1911. By reason of the allowance the state will get out or five additional demonstrators or inspectors, and the battle against the scale can be pushed. Dr. Surface plans to have the demonstrators meet in the Capitol for a "round up" the last week in October, after lectures to go to orchards and engage in practice and to witness demonstrations. Dr. Surface hopes to have some facts regarding his discovery of a parasite that preys on San Jose scale ready for presentation. The dates for the demonstrations will be made public during October. It is planned to cover districts which have shown increases in yields and to stimulate others.

Hunters' Licenses Going Out.—Preliminary reports from county treasurers indicate that the licensing of hunters is proceeding rapidly in every section and hundreds of licenses will be issued before the middle of the month. Over a dozen counties have reported women applying for the right to hunt. Threats to test the law in the courts have been numerous but nothing has been done as yet. The State Game officials have called attention to the fact that one-half of the revenue from hunters' licenses is to be used to pay the bounties on wildcats, foxes, weasels, owls and hawks and anticipate generous support of it from people in the cities and towns. Farmers hunting on own lands are exempt.

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the collating of the data obtained from county commissioners as to the names, addresses, holdings and other information about farmers. It is the plan to develop the bureau rapidly and to make it an effective and useful branch of the department of agriculture.

Rural School Agriculture.—The opening of rural schools is likely to be followed by more attention to agricultural education; more than generally expected will come under the state-aid act for vocational education. By the rules laid down this education must consist of 50 percent at least of subjects relating to agriculture. In many districts inquiries are being made as to the methods in use in other states and on the regulations to obtain state aid. In Snyder county it is the plan to develop agricultural courses generally.

Less Interest in Racing.—Reports from a number of the fairs held thus far have indicated that the number of horses entered for races is not much larger than five years ago and that interest in the racing events has not held the attention enjoyed in years gone by. Yet the attendance has not dropped. It is either due to the side attractions or interest in the exhibits.

Politics and Payments.—Just at present Capitol Hill is going thru a disturbed political condition. The auditor general is holding up a number of matters pending decisions. One of them is the refusal to pay bills for indemnification of farmers and butchers whose cattle were slaughtered by agents of the State Live Stock Sanitary Board because of tuberculosis, and the other is the refusal to pay over to the State Highway Department income from automobile licenses. The legislature voted the money for the indemnities of farmers for cattle and in two acts provided that the automobile money should go to the improvement of roads. The people's money must be spent to have courts determine whether it should be spent after the legislature has authorized it.—Harrisburg, Pa., Sept. 8.

NEW JERSEY FARM NEWS.

Canning Factories Busy.—Because of the prevailing low prices in both the urban and local markets, combined with the fact that this year's crop is a record breaker, the tomato canning factories opened earlier than usual. The farmers who made contracts earlier in the season are ahead of the game. The average contract calls for \$11 a ton if delivered at the factory, or \$10 at the farm. Many prefer the latter arrangement, and the canners send their five-ton automobile trucks for the tomatoes at regular intervals. There is money in raising tomatoes at these figures.

The Apple Crop.—New Jersey is credited with a better apple crop than in 1912. While the price of winter fruit may not go above \$2 a barrel, growers have come to realize that more apples will be consumed at that price than at \$3. Certainly no ultimate consumer will dispute this statement, which has in it the suggestion that the high cost of living as demonstrated in other articles of diet may have reached its zenith.

Milk May Be High.—The public is being prepared for an increase in the price of milk next winter, by statements concerning the great reductions in the forage crops in the West because of the drought and the strict health regulations that are being enforced on the dairyman and milk distributors. But if prices are raised it will not be for either of the reasons given. North Jersey farmers get but 3 to 4 cents a quart for milk shipped to the large cities. The railroads get a little, but the greater profit goes to the middleman, the retailer.

To Enforce New Basket Measure.—Beginning November 1, superintendents of weights and measures throughout the state will make a complete tour of their respective districts and confiscate every basket found to be at variance with the new law. Any merchant or huckster found after that first visit, to be selling again thru baskets that are not of standard size, will be prosecuted without further delay.

Economy Committee Appointed.—Governor Fielder has appointed a committee to prepare a statement on the agricultural needs of New Jersey to be presented to the Permanent American Commission of Agricultural Finance, Production, Distribution and Rural Life. The committee is composed of J. S. Phipps, President of the State Board of Agriculture; Dr. J. G. Lipman, Director State Experimental Station; A. J. Reid, Treasurer State Board of Agriculture. This commission will meet in Washington, November 18, to adopt re-

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ports to be submitted to Congress, to the states, to the provinces of Canada and to the organizations affiliating with the body. The purpose of this Commission is to solve the economic problems thru the use of the findings of this same Commission in European countries.

University Farm Successful.—Large crops have been the rule this year on the 200-acre farm that is being cultivated by the students of Princeton University. In connection with this farm, many interesting features have been introduced. Chief among these is the fact that the work of the college men is done strictly on the honor system, each man acting as his own time-keeper. Because of the introduction of modern appliances and labor-saving machinery, more work by fewer men has been accomplished this year. The farm is being cultivated in the following apportionments: Hay, 120 acres; corn, 20; rye, 25; potatoes, 15; wheat, 5; truck, 5. A market has been found for all the produce except a few beets, and the students have prepared to sell these later by the installation of a small canning plant, which will provide them with extra remuneration. A part of this year's innovations was the allotment of half an acre to each man, which he cultivated personally in leisure moments, and from which he will receive all the proceeds. Most of the Princeton boys have gained all of their experience in this line since entering college. A typical day on the farm is nine hours and the students are paid 20 cents an hour.

NEW CONCRETE BOOK.—FREE.

The use of concrete on the farm has made a tremendous advance in the past

few years. There is scarcely a farm that does not have concrete used in one form or another, and there are few farms where greater use will not be made of this material in the future. A new book, giving just the information which every farmer needs in the use of concrete about the farm, is being offered by the Alpha Portland Cement Co. It is called "Country Concrete Construction" and is the most complete book of the kind that we have ever seen. It gives full directions for the mixing of materials for different uses, how to estimate quantities needed, building of farms, reinforcing, etc. In addition, it gives specific directions for the building of floors, foundations, walks, yard pavements, cisterns, cold frames, culverts, dipping vats, drain tile and outlets, fence posts, field rollers, mangers, milk houses, septic tanks, silos, tanks, troughs, etc. The book contains 112 pages, is fully illustrated, and will be sent free to all Pennsylvania Farmer readers who write for it. Just address a postal card request for it to the Alpha Portland Cement Co., Easton, Pa.

Destruction of Fish.—Dr. Lester Jones, U. S. Deputy Commissioner of Fisheries, says that the maize of fish nets set in the channels of Chesapeake Bay in its tributaries, in violation of navigation laws, and which prevents spawning fish from reaching fresh water breeding grounds, must all go. Hereafter these laws will be strenuously enforced in Chesapeake Bay. This will probably result in restoring the usual food supply of fish which past few years have been growing less yearly.—G. O. B.

"Elephant Head" Rubber Boots are Selling Ten Thousand a Day

Ten thousand a day means this famous brand is giving absolute satisfaction. Out-selling all others—means that it is the strongest, toughest boot the farmer can get.

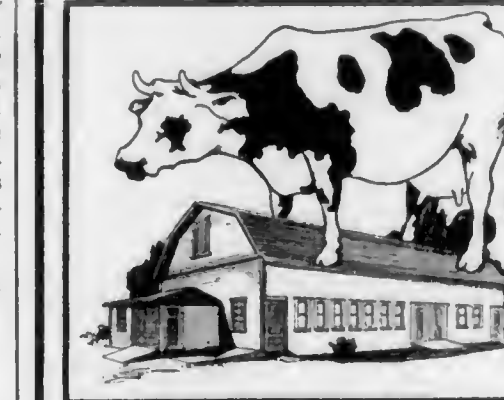
Made by the largest rubber company in the world, is proof that behind this popular boot is an organization that leads the others.

WOONSOCKET
ELEPHANT HEAD
RUBBER BOOTS

Insist upon "Elephant Head" Brand Rubber Boots. Made of the purest, finest gum cement known to science.
—made of extra strong duck.
—reinforced at every point.
All the best dealers carry "Elephant Head" Brand Rubber Boots in all lengths and you can depend on them to carry the best of everything.
WOONSOCKET RUBBER CO.
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- (4) 8-Horse Stable—four drawings that show exactly how to build. Material and work specifications.

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NAME _____

ADDRESS _____

CITY _____

STATE _____

Household

RAISING PERSIAN CATS

Mrs. P. Franklin, of Michigan, has built up a very profitable business in raising fancy cats. She was recently asked why country women could not make Persian cat raising a profitable side-line, if not a more profitable specialty. In replying, she said:

"There's no reason on earth why they couldn't and every reason why they should be more successful than city women. They have better milk for the pussies, for one thing, and for another they have over so much more room. The more room the cats have the better and larger they grow, and the larger they are the more valuable. On the back end of a city lot, the cats really do not have enough room to do their best. I have a portable runway for mine, which I move everywhere on my lot, but I could do much better if I had the 'all out doors' of the farmer's wife."

Mrs. Franklin has been in the business for years; has taken first prizes at different state fairs, and is consulted daily by women who are starting in the business and meet with some difficulties which beginners in every line of work are bound to meet. Surrounded by her beautiful cats at her home, she gave some information as to how one should start in this fascinating line of money making.

"A good breeding cat may be purchased for \$25," said she. "Of course, you could get a kitten for \$10 or \$15 but it is better to pay more and get a cat, as you never really know what a kitten will be until it is a year old. In 65 days the kittens are born, and in a couple of months they may be sold at from \$10 apiece up to as high as you dare to ask and are able to get. There are usually from two to six kittens, altho sometimes there are eight. It is better to let the mother raise only four, and keep a common, short-haired cat to mother any others. They should not be weaned under two months, to get best results, tho some wean them younger."

"After they are weaned feed them milk three times a day. I always scald the milk, until they are a year old. After that I feed them porridge and milk in the morning, and meat meal once a day, beef, mutton, liver, heart, anything but pork. I feed a great deal of beef heart. These cats are fine mousers, and if you have a Persian cat around you will never be bothered with mice. They love grass and catnip, too. I have a bush of catnip dried every fall for mine."

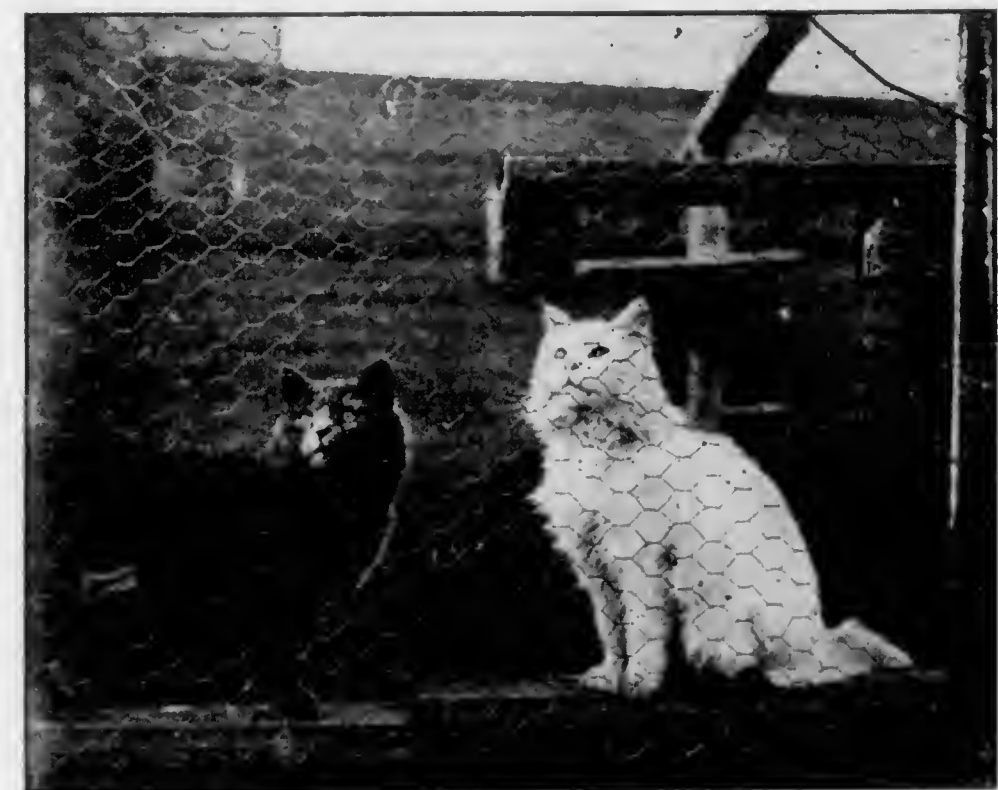
"Persian cats are no harder to raise than ordinary alley cats, no matter what you may hear as to their delicacy. You can keep them out doors all winter if you want; in fact, the stud cat must not be brought in. They must be kept dry, but the catnip need not be heated. Build shelves so they can climb, and treat their little ailments as you would any other cat. In my experience I have never had to call a veterinary more than once or twice. There are two or three magazines devoted to the subject, and a woman who goes into the business can take one of them and learn for herself how to take care of her stock."

"In picking out a queen, the woman must be careful to look for what we call 'type.' The cat, above all things, must be broad between the eyes, must have a short nose, small ears, a cobby, or low broad body, short legs, a short tail and a long coat, the longer the better. Blue, yellow, and black and yellow cats, must have yellow or orange eyes; silver cats must have green eyes,

and white cats should have blue or amber eyes. When the kittens come, tho, do not be discouraged if your blue cats have blue eyes, for all kits have blue eyes. The color changes during the first year to the shade required by 'type.'

"I have found all colors equally hardy. So far as I can see, a white cat is as hardy as a blue or a tortoise shell or a silver. In breeding it is best to breed color to color. If you do not the color of the sire will predominate if he is older and line-bred, unless the queen is also line-bred. Then the colors will be about equal."

"Of course, you want your cats reg-



A FINE TYPE OF PERSIAN.

istered, as a farmer registers his prize stock, and only line-bred cats can be registered. You must be sure there is no common blood, tho after four generations a cat with common ancestry may be registered if it has been carefully line-bred that long. It is curious to note, tho, that the old short-haired ancestors may crop up in their descendants of the seventh and eight generation, just as the one drop of bad blood shows in the human being after a century or so.

"The cats are remarkably intelligent, and seemingly understand everything that is said to them. In disposition they are much like people, many of them being loving and good natured, while others have the veiled claw in the paw of silk and ready for offenders."



A VIEW OF MRS. FRANKLIN'S CATTERY.

Some of the old-fashioned dress goods are coming back into fashion. Bedford cords were shown this spring in both narrow and wide cords and in cotton as well as woolen materials. A plain tailored brown bedford cord suit is

NEW AND OLD DRESS GOODS

Some of the old-fashioned dress goods are coming back into fashion. Bedford cords were shown this spring in both narrow and wide cords and in cotton as well as woolen materials. A plain tailored brown bedford cord suit is

trimmed with brown bone buttons. The effect is very smart. Broad and narrow bedford cord is sold in white and cream cotton at 39 cents a yard. It makes up into cotton tailored suits and skirts quite effectively.

Pique is also much worn, not only in white but also in colors. A striking white and black pin stripe pique sells at 15 cents a yard on some of the bargain counters. It is well worth the buying and making.

One of the newest of cotton dress goods is called ratine, pronounced rat-ee-na. It is rough and looks quite like turkish toweling, and it ranges in price from 85 cents to \$1.50 a yard.

"Six or seven years ago my attention was first directed to the subject. A woman I knew, a Mrs. Miller, received an invitation to the wedding of her cousin. There was no very close friendship between them, just a cousinly regard that was all."

"Now, the Millers had been having all kinds of bad luck, and at the time I speak of they were what old-fashioned people call 'awfully hard up.' They had nothing but Mr. Miller's wages and he was earning only a dollar and a half a day, and was not able to work steadily. They had three little children, and it was just all they could do to make ends meet. Mrs. Miller couldn't go to the wedding, for it was some distance away, but she felt that she just had to send a present. So she spent \$2.50 for a pickle easter, and paid 50 cents express charges to send it. It really seemed as if she almost was taking the bread out of her children's mouths to do it. What made it all the more absurd, the cousin had quite a lot of property in her own right and was marrying a wealthy man, and she received three pickle easters among her wedding gifts."

"Since then I have kept my eyes and ears open and have done some hard thinking. Have you not noticed how often, when a person receives an invitation to a wedding, all pleasure in the high compliment bestowed, or in anticipation of the event itself, is more than counterbalanced by the unwelcome necessity of buying a present?"

"Of course, when those who invite are mere acquaintances, one can stay away from the wedding, and this is often done simply to avoid making the expenditure for a present. But this course will hardly answer when the invitation comes from relatives or close friends. Then one generally feels that it is necessary to attend, or, if that is utterly impossible, that a suitable gift must be sent anyway."

"So the thing has come to be regarded as a kind of social tax levy, a polite hold-up. Wedding gifts no longer represent the kindness and loving thought of one's friends; they simply show that those who have been invited have howled to a conventional-ity which they were not strong enough to resist."

"How shocked a bride would be if the cards attached to her presents should state the actual feelings of the givers! One would read somewhat like this, I imagine: 'I wish you very well, my dear, but really I should prefer not to give you this silver cake dish. We have to meet a payment on our farm next month, and as we are spending upon ourselves only for that which is absolutely necessary, we do not feel like buying luxuries for our friends.' Another would hear this inscription: 'With congratulations and best wishes. My husband needs a new hat. He will have to make his old one do for a while longer, an account of our buying this fruit set for you.' Still another might state that while the purchase of the gift did not necessitate pinching, still the donors would like far better to use the money for something else."

"Now, I wouldn't want to take presents from people who really would pre-

fer not to give them to me. I couldn't stand it to have such gifts in the house. I shall purchase my household goods, pleasing my own tastes and suiting my own ideas of harmony and fitness, and not place myself under obligations to my friends for a lot of silver and china too expensive to be of much service in the style of housekeeping that I can afford in the beginning."

"I have known girls to make very cool and business-like calculations upon what they expected as wedding gifts—actually to figure on how much they were likely to get! And their mothers and aunts helped and encouraged them. Invitations were sent to people whom they hardly knew at all, but who were in such circumstances that they could 'come down' with a handsome present. That way of doing seems to me positively sordid and vulgar."

"We have invited to my wedding only those for whom we have a sincere regard, and we hope that everyone to whom we have sent an invitation will come. I shall not have a list of presents to publish in the local paper, but it is a satisfaction to me to feel that no one will stay away because buying a gift would necessitate too large an outlay for a slender pocketbook."

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Why We Should Make Your Clothes

Confidence

First we must gain your confidence. Our business is the development of an industry which has been located at Chambersburg since 1840, seventy-three years. This ought to convince anyone that we must be honest and fair. We refer by permission to the Chamber of Commerce composed of leading business men of the City, also to the Chambersburg Trust Co.

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We do not make or sell cheap, flashy or shoddy clothes. We manufacture most of the cloth we use and buy the balance at first hand from reliable mills. No honest goods can be had at lower cost than ours.

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We send you samples of the color and weight of goods you write for so you can see the material yourself. With these we send a very simple set of directions for taking your measure, together with a tape measure and fashion book. Anyone can take your measure and fill in the blank. This with cloth you choose is returned to us. The sample of cloth with your measurements is taken by our Tailors and your suit is cut and made up to fit you. Not only will it fit and wear and hold its shape, but you will find that good honest materials are used, the buttons are well sewed on, the button holes nicely made and all the little things by which you know a suit is good are finished properly.

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6238—Misses' and Small Women's Dress.—Three sizes, 14, 16 and 18 years. Age 16 requires 4½ yards of 44-inch material. Price, 15 cents.

6290—Children's Caps.—Three sizes.



1, 2 and 3 years. Size 2 requires for Cap No. 1, 1 yard, 27 inch; Cap No. 2, 1 yard, 27 inch; and Cap No. 3, 1 yard, 27 inch gowns. Price, 10 cents.

6327—Ladies' Two-Piece Skirt.—Five sizes, 22 to 30 inches, waist measure. Size 24 requires 2½ yards of 36-inch material. Price, 15 cents.

6235—Girls' Dress.—Five sizes, 4 to 12 years. Age 8 requires 2½ yards of 36 inch material. Price, 10 cents.

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6323—Ladies' Tucked Shirt Waist.—Five sizes, 34 to 42 inches, bust meas-

later by berries. Wild root brings \$5 per pound and more.

The root of wild sarsaparilla should be gathered now and dried. It brings from 5 to 8 cents per pound. After the leaves have dried in autumn the root of bloodroot should be collected. It is tonic in its nature and brings from 5 to 10 cents per pound. After it is dried it must be kept in a very dry place as it spoils quickly.

The root of the May apple (podophyllum peltatum) should be collected not later than October. It is cathartic. It brings from 3 to 10 cents per pound, according to the fluctuations of supply and demand.

Poke root (phytolacca decandra) is gathered in late fall and dried. The berries also are used. The dried root sells for 2 to 5 cents per pound and the berries for 5 cents.

The leaves of the witch hazel, mountain laurel and wintergreen should be collected in autumn. Dried, they bring from 2 to 3, 3 to 4 and 3 to 4 cents per pound, respectively.

Stone root (Collinsonia canadensis), the root of which possesses tonic and other properties, should be collected now. The dried root brings from 2 to 3½ cents per pound. Stone root is known also as citronella, horse-balm, etc.

Sweet-flag root, gathered, washed and the rootlets removed without disturbing the skin covering the root, is an important article of the drug trade. It loses about four-fifths of its weight in drying. It is much used in digestive disorders.—M. Roberts Conover, Monmouth Co., N. J.

THE RAINY DAY JOBS

I am another farmer's wife who enjoys an occasional rainy day. If it is an especially busy time, the husband is apt to come in the house looking discouraged and fretful. Perhaps there is a good chance then to get some of the old jobs done, but I always find it best to first chase that discouraged and discontented look. A little chat, using the best and most comfortable rockers, and the mention of a few of the brighter things of life which are too often neglected in the rush of work, will soon put the good man right. Then arrange the pillows for the couch and let him read or sleep while he can, and he will be better off for the rest.

If it is still raining when he awakes or after dinner, then find the odd job for him to do; or, better still, take a little time off yourself and talk over the business affairs of the farm with him, and make plans both for pleasure and for profit. Such little visits help us to retain our youth and make us ready for the sunshine on the morrow.

Yes, there are many little odd jobs that I want done, but if they can not be reached in any other way, I change work with my husband, for there are many kinds of outdoor work which I can do, and fill a man's place just when such work is most needed. Then he can better find time for the work which I have for him to do about the house.

But let the man rest thru the showers. Some men hitch up and go to town on such days, just to get away, and return only in time to look after the chores. Some are justified in doing so, if there can be no rest periods at home.—G.

Another plant, the root of which is used as a tonic, is (Fraseria carolinensis) the American Columbo. Its flowers are borne the third year of its life, and the root must be collected before this, either in autumn of the second year or in the spring of the third year. The root is prepared by slicing and drying Three to 5 cents per pound are paid for the dried root.

The root of the American Angelica (Angelica Atropurpurea), a tall-growing herb, is valuable medicinally and should be gathered now. The dried root brings as high as 10 cents per pound.

Ginseng root is taken from three to five-year-old plants. Ginseng grows about a foot high, bearing three leaves at the top of the stem. Each leaf consists of five leaflets united by small stems. The flowers are borne in a close cluster in July and August, followed

Grange

McSPARRAN'S GRANGE NOTES

The Place of Whisky in Society



The use of alcoholic drinks of one kind or another as a beverage over the world thru the centuries is only another of those strange gropings of the race from the darkness of barbarian ignorance toward the light of that civilization which makes man recognize that he is his brother's keeper.

At one time it was considered right for one human being to hold another human being in chattel slavery, but as civilization has slowly moved forward, it has almost entirely destroyed this despicable practice. At one time a person who had offended against the law was the plaything of the government or the populace; but so firmly has the idea gripped civilization today that the basest criminal is no longer thrown to the wild beasts of the arena, pulled limb from limb on the rack or broken on the wheel, but by the most speedy and least painful process is ushered into the presence of a despised Creator. So, the fact that liquor has for centuries been used as a satisfaction of a beastly appetite is no reason to suppose that such a use is right or that it can not be made to take its rightful place in human society.

It is not calculated for a social beverage for three reasons around which other reasons cluster in logical arrangement. The first is that it prevents the normal development and efficiency of the human body. The test of the actual strength and capacity of a steam engine is not when it is moving under low pressure of steam and a light haul, but when the steam is lifting the safety valve and the piston is struggling against a limit load. So, too, the human body is rated in its abilities by the way it carries up under stress and strain. The athlete under the intense competition of the race uses his muscle to the limit, and it has been found that the use of alcohol is a detriment instead of a help, and is largely forbidden in athletic training. It has been found by tests of soldiers on the march that the greatest endurance is seen where liquor has never been used. We were taught in physiology that the action of alcohol on muscle tended toward fatty degeneration.

The second reason is that it reduces and prevents mental power and poise. Let the most brilliant intellect become loaded with whisky and the judgment is so erratic that it will sanction the commission of murder on a trivial misunderstanding or difference. Railroad corporations, who must have responsible men to handle trains safely, recognize that they can not get that responsible accuracy from men who drink. Large manufacturing plants complain that they can not get the best quality of skilled workmanship from men who use rum. The will is weakened so that when a warped judgment suggests playing home and its needs secondary to appetite, the will gives way and once loved ones are steeped in abject misery while a bestial appetite gloats in satisfaction.

The third reason is that it destroys the image of man's Maker in his soul. The bald statement which inspired revelation makes that "No drunkard shall enter the kingdom of God" covers the entire subject; but to amplify we must study man in his three-fold structure and recognize that he is not an extreme

ly intelligent animal, but that he has something within that all other animals lack. No human being anywhere is so low and degraded that the idea of relation to God is left out. The Hottentot has his fetish and amulet, and as capacity increases the form of worship becomes more complicated, but no more compulsory. The sense of sin as causing a separation from and the displeasure of a Higher Being is manifest in some degree everywhere. In our civilization the proper relation of man to God is more clearly defined. Whisky destroys that sense of relation to God. It benumbs conscience, the watchman that heralds the approach of friend or enemy.

It eliminates reverence in proportion as it elevates and emphasizes the bestial. It covers Godly fear with a false bravado. The use of liquor never made a martyr to principle, but ten thousand times it has overridden the most earnest resolves of the human heart. It never made the love of God the actuating power in a life, but in many, too many, cases it has enthroned the lowest and most bestial in its devotees.

It never sent a man on errands of love to his fellowman, but instead inculcates the most supreme selfishness in those who come under its influence. It blights the body, beclouds the intellect and dwarfs the soul. Instead of being a social glass, it strikes the very foundation from the whole social fabric. Instead of stimulating power, it is an enervating weakness.

It has no place inside a man or woman, but it has a place outside. Its use as an industrial power is just in its infancy. Instead of the food of man being turned into a worse than useless drink, the offal of the vegetable kingdom should be converted into light and power. Instead of adding to the waste of good corn and rye, the waste of blighted life and capacity, it should utilize the waste food products and the saved manhood and womanhood would eat the corn and rye and use the light and power of the waste products to increase the store of necessities, comforts and luxuries of the human race.—John A. McSparran.

SOME POINTERS ON TAXATION

The single tax idea is an exotic. It comes to this country from lands where landed ownership is a legally protected monopoly. Arriving here it found favor with those who lived in cities, to whom land was synonymous with foot room. Hosts of abandoned farms and unsettled hillside bear witness that there is no lack of foot room in the United States. Any man can acquire land in this country; but he has to go where the land is, at such prices as meet his purse. He can not expect to maintain a cattle range in the heart of Chicago.

The single tax advocate has much to say of "unearned increment," and "fining men for their thrift." Unearned increment is the advantage that comes to each when human beings live in communities. It is not peculiar to land ownership. It is the social gain, the cause and the profit of civilization. The lawyer could not practice, the physician could not find a fee, the architect a patron, the musician an auditor in a desert. Taxing this advantage, to be fair, means universal taxation. And this brings us back to the starting point. The phrase "fining thrift" could never be used by one who comprehends principles.

Government is essentially a co-operative arrangement for the mutual protection, first of life, then of property. No man could hold much, or enjoy much, if the safety of either depended alone on the strength of his good right arm. With all its defects and grafts, any kind of government is better and more effective. Government is worth

something, then, and it costs something. That is met by taxes. Regardless of inequity, one gets more return from the money he pays in taxes than from any other expenditure he makes. We want to correct the inequities; not stop the investment.

There are two basic principles underlying taxation, either sound economies. The one on which our past system is founded is that all things protected shall share equally the cost of protection. "Taxes shall be equal and uniform." Poll tax or personal tax stands for the life interest of the man and the family. It takes the place of militia duty. Property tax pays for the safeguards the law throws around the ownership of the things he owns. Isn't it fair that he who has most should pay most? Is that in any sense "fining thrift?"

Then there is the income tax principle, equally sound, based on the axiom that no matter how many millions of man may be said to own, if you take from him more than his annual income from that property each year you are confiscating his possessions. In other words, a nation's aggregate taxes are strictly limited to its annual increment of production. But if last year's production has paid this year's tax it has done its full duty, and there is no excuse for levying on it again in the fixed form of property. In a word, property tax is right and sound, income tax equally so; but the two are incompatible in any just government. You may rightly collect from property its equal share of what it costs to protect it; or you may collect from each man in proportion to his ability to produce, but you can not honestly tax the ability to produce and tax the thing produced also. That is double taxation, fining those who save.

Now where does the single tax fit in with either of these methods? In the broad sense, taxing the opportunity for earning that comes from living in communities dense or scattered, it becomes only a tax on income; for the income on the average, measures the tax payer's opportunities. Since all men profit

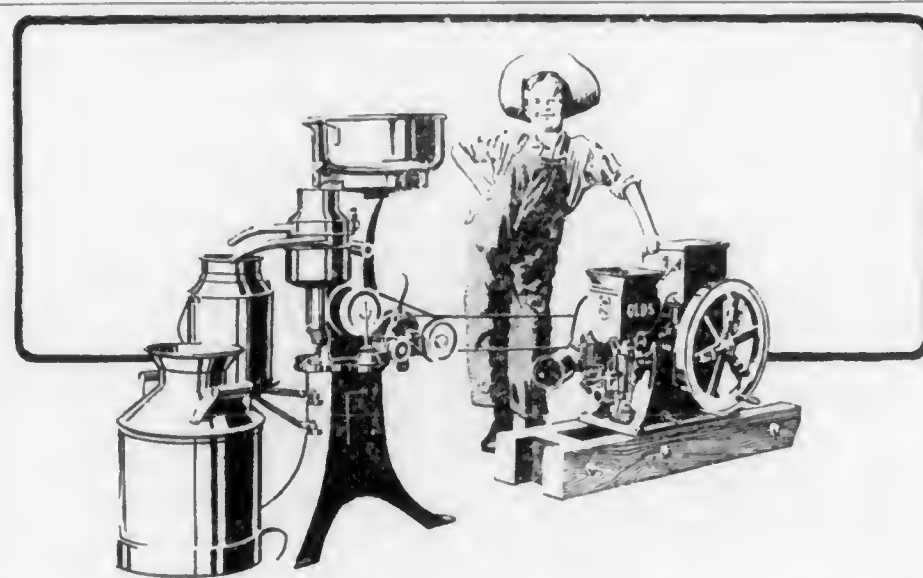
by the social order, all men should pay the single tax.

In the sense its advocates use the term, it is an attack on a special form of monopoly, urged by those who know only city conditions. The ten million farmers of the United States recognize no scarcity of land foothold. Foreigners who know how to limit their purchases to their income reach this country by hundreds annually, work as laborers for a while, save their earnings and become land owners and prosper. They feel that they pay their full share of the cost of government. What appeals to them in this single tax idea to induce them to consent to pay it all?

There is only one answer. In practice, taxation tends to settle on those things which can not be concealed—which can be most easily reached. There is no plea of equity in this, only availability. Out of it grows the inheritance tax, the single tax, the old English window tax, etc. All license taxes, the sale of privilege, go into this class. It is too vast a subject to discuss here.

The sincere single land taxer really feels that he is getting back at monopoly. But he isn't. Monopoly never was taxed out of existence, never failed to collect the tax from the public, never failed to grow stronger under taxation. Its plea then is, "We pay the taxes, we ought to have something to say about how they shall be spent." And so it takes charge of governing.—Charles H. Darlington, Chester Co., Pa.

A Milk Contest.—The Rochester Industrial Exposition proposes to establish a milk contest as a permanent feature of the exposition. Samples of milk submitted by dairymen are to be tested for their purity. The milk must be produced on September 12, so that all samples may be of the same age and these four-quart samples must be delivered in bottles to Dr. Williams, 383 Monroe Avenue, Rochester. Various particulars must be complied with which he will explain if requested. Another contest will be between milk producers whose barns and equipment score highest for cleanliness and all sanitary conditions.—D.



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A Shocking Affair.

By Jared L. Fuller.

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I.

The fight between the Blue Line and the Colfax & Morley trolley systems was by no means a new complication in county affairs when Sam Goudsall came home from college.

Sam had the low brow and head set forward between the shoulders of the born fighter. He was pugacious from the word go, as his flaming thatch of hair betrayed at first glance.

Sam's father owned the Blue Line, and when Sam heard that the "Old Governor" was going to butt into the county trolley conditions, as a dutiful son he had applauded the stroke by letter. Now he was eager to have a part in the fray, too.

"What do you think you can do?" growled Goudsall senior, who, truth to tell, believed he "had bit off more than he could chew," and wished heartily that he was out of the business.

The condition of affairs was like this:

The C. & M. Company, being first in the field, had had everything its own way for some years. It gave the people of Colfax County very poor service, but they were glad to get transportation cheaper than the steam roads, even at that.

Goudsall happened to get control of the Morley Blue Stone Quarry Company. That seems a far cry from running a trolley road, but the Quarry Company had "blanket" corporation rights.

The quarry itself had long since petered out, and blue stone was not being used much now. But time was when the company had been wealthy, and had owned its own transportation privileges clear into Colfax, to the river.

Its charter covered a right to build and operate a canal, a street, or other railroad, and to do half a dozen things which it appeared that a company fundamentally organized to carry rock would never have occasion to do.

Goudsall at once began the construction of a trolley road in competition with the C. & M. line, and had his tracks all laid, wires strung, and power house built and in running order, before the rival company really began obstructionist methods.

There was but one way into Colfax for the Blue Line. Goudsall had obtained the necessary street franchise from the city council—and without much trouble, too, for the people wanted a five-cent fare, and the new road was pledged to that.

But this way into the city necessitated the Blue Line crossing the track of the C. & M. The new franchise did not allow of Goudsall's cars running over the C. & M. rails.

And after all but the crossing was ready, the C. & M. Company got out an injunction stopping the Blue Line from laying the "frog." Goudsall had already begun to run his cars from Morley into the suburbs of Colfax. The crossing was only half a mile from the heart of the city.

He had expected some such action on the part of the old trolley company. He waited, running a few cars to accommodate his Morley and suburban passengers, meanwhile perfecting his road and current. The crossing and wire connections could be made in a few hours and the irons were on the ground.

One Saturday night a line of crowded cars ran out of the power house of the Blue Line on the outskirts of Morley, and had a clear road to the aggra-

vating crossing. A hundred and fifty workmen piled out of these cars just at midnight, and while one gang began to tear up the C. & M. rails, the other husky boys defended them from the futile attacks of the C. & M. employees.

No courts could act on Sunday, and by midnight the frog was laid, the ditches filled in, the pavement put down again, and the connections made overhead. It had been a masterstroke on Goudsall's part and it was this that Sam had so loudly applauded when he read of the fight in the papers.

But it was not the end. The C. & M. Company were old hands, and they had been working secretly against the Blue Line in an entirely different direction.

The injunction to stop the laying of the frog had all been a bluff. Their lobbyists in the state legislature had been frantically working for one of those "popular" measures with which the dear public is so frequently fooled.

Some good-natured reformer had been encouraged to father an amendment to the state railroad law making it a misdemeanor for any railroad to cross another at grade.

This law was not aimed to affect those grade crossings already established, so it found no opposition from the regular lobby. No steam railroad company of the present day contemplates building grade crossings.

The amendment was rushed thru in the last hours of the legislative term, and read "to take effect immediately." It was a knock-down blow to Goudsall. It would not pay the Blue Line, with its expensive equipment, to run cars merely from Morley to the outskirts of Colfax. That was plain.

"And to build a bridge, buy up the property thereabouts, regrade the streets, and settle damage suits, would cost us a million dollars," Goudsall senior declared surlily. "We can't stand such an outlay."

"I've found all my extra motormen and conductors work with the new trolley road over at Brighton. They were well broken in, and the management of the Brighton road was glad to get them."

"I'm keeping a few cars running down to the crossing. The authorities have made me cut the wire connections. They won't even stand for our drawing the cars over the crossing with horse-power."

"The law is final on that point. The C. & M. will rip up our frog, and we can't lift a hand to stop 'em."

"But can't we go before the legislature next term and ask for a modification of the law?" queried Sam.

"What! Buck against a popular law like that? I—guess—not! It'd kill us dead—n Julius Caesar. You've got to think up something better than that, sonny, before you show me that you are likely to be of any particular use!"

And the old man grinned.

So that was how the land lay, and Sam, his enthusiasm rather dashed, strolled about a good deal with his hands in his pockets and smoking his biggest pipe, but without really working up any feeling of his own importance. He didn't see "where he came in," after all.

There was a girl—there always is a girl when a fellow is just out of college. Lucky if there aren't several.

But in Sam Goudsall's case there had been but one girl that he could see. She was Amy Pritchard, and he was mighty glad to have her company on one of his many strolls.

Sam naturally took her into the con-

science of the Morley Blue Stone Quarry Company—in other words, the Blue Line—as frankly as tho she owned a block of stock in his father's corporation.

A smart looking turnout drove by as they leaned upon the canal wall, and Miss Pritchard bowed and smiled at the young man driving the pair of bays. Sam scowled.

"Why, that's that ass, Jim Pepper," he cried.

"Yes?"

"I hope you don't know him!"

"I hope you don't think I would bow to a man I didn't know!" Miss Pritchard returned with some hauteur.

"Why, he's old Pepper's son, and he's the president of the Colfax & Morley road. Jim has some job with them."

"He drives very nice horses," declared the girl, looking after the carriage.

Sam swallowed something that went down hard, staring at her. It had never entered his mind that Amy Pritchard might look favorably upon any man but himself.

"That fellow's as big a scoundrel as his father!" he burst out, showing at once the vulnerable spot in his armor.

"They'll wreck the Blue Line if we don't stop 'em,"

Miss Pritchard laughed.

"And what do you suppose you can do to stop them?" she asked. "At least Mr. Goudsall, Mr. Jim Pepper works every day, and earns his salary, even if he is the son of the president of the C. & M."

"Great Scott!" murmured Sam. It was just as tho a particularly nice and purry kitten had suddenly turned upon him and scratched.

"All you do is to loaf about, and smoke that horrid pipe, and brag. Why don't you do something?" and she stamped her foot.

"Here's this canal"—and she gestured freely toward the sluggish brown water below them. "It belongs to your wonderful company, I suppose? Why don't you do something with it?"

"It is an eyesore to the countryside, and a source of danger to the health of Colfax. It becomes a mere open sewer there. It ought to be filled up."

"I like men who do things. You'll never get a right of way into Colfax for your old electric road; but you might do something else."

She turned her back upon him and walked away. And Sam, breathless, amazed, stricken dumb, let her go.

Finally he ground out between teeth that had already bitten half thru the stem of his pipe:

"I'll do something, all right! If ever I get a chance I'll break every bone in Jim Pepper's miserable body."

II.

It must have been Amy Pritchard's scornful words that set Sam Goudsall to thinking of the old canal. Since the railroad—the steam road—had come into the county twenty years before, the Morley & Colfax canal had fallen into disuse.

No more blue stone was quarried; everything was shipped by rail; the canal boats disappeared; the locks rotted away. The canal was only fifteen miles long, anyway.

The canal rights were considered of no value when old man Goudsall bought up the Morley Blue Stone Quarry Company's charter; indeed, they were an encumbrance, for now and then the county newspapers took a fling at the disreputable state of the "old ditch," and occasionally some health officer prophesied an epidemic from the stagnant waters.

Sam still smoked and apparently strolled about quite as uselessly as before. Goudsall senior grunted when he observed him. The few cars ran daily

over the Blue Line tracks as far as the crossing—and that was all.

But Sam took his strolls beside the canal now, and within a few days he traversed the weed-grown tow-path for its entire length.

In the country the sluggish water was not so bad. But in Colfax it became black and vile. The manufactory, without as much as saying "by your leave," used the ditch as a sewer.

The canal, spanned by many bridges, passed directly thru the business part of Colfax. It's line was within a stone's throw of the Union Station. It opened into the river in the main dock section.

If the Blue Line could get as fine an entrance into Colfax as this old canal had!

And with the idea suggested by this thought, Sam went to his father and began to talk. Goudsall senior had made up his mind that he had been bitten in the trolley business, and he was far more anxious to sell out his interest in the Blue Line than he was to invest more money.

"It's throwing good money after bad," he growled.

But Sam was patient—and he could talk. He talked until his father was angry; but he kept on talking until the old gentleman was pleased again.

He finally dragged him off to view the canal from the abandoned quarries down to the lock which connected the ditch with the river.

On their way they were passed by a handsome pair of bays driven by young Jim Pepper. Beside Pepper sat Miss Amy Pritchard; but Sam never turned a hair.

Perhaps he didn't see her, he was so much interested in the line of talk he was handing out to the half-convicted old gentleman by his side.

It really took a week thoroly to convince the president of the Blue Line of the practicability of Sam's scheme. But there was a big satisfaction in the fact that when the president was satisfied the board of directors followed his lead like sheep.

If old Goudsall had cornered the entire output of soup meat for the next ten years, and the week after this the heavens began raining first quality mulligatawny, the men who backed him in the corner would have every confidence in his pulling out all right, and getting them a big return on their soup meat investment.

Therefore, when he told the directors of the Blue Line that the way to beat the C. & M. crowd was to pay out several hundred thousand dollars in "doing something" to the old Morley & Colfax canal, they believed him and said: "Go ahead!"

And, to use Sam Goudsall's brand of expressive language, what they did to that old canal "was good and plenty!"

The lakes and waterways that had originally fed the ditch at the Morley end had long since been turned back into their original courses, and only an occasional flood or heavy rainfall ran thru it now. These feeders were completely shut off by masonry.

At the Colfax end a heavy wall was built above the entrance lock, and then the water was drawn out of the canal altogether. The ditch was nearly twenty feet deep and its bottom was a sad sight.

No man so busy as Sam Goudsall these days. He never noticed young Pepper as he drove by behind the bays, and of course he could not have told whether Miss Pritchard sat beside him on the carriage seat or not.

The muck in the bottom of the canal Sam got the farmers to cart away for the value it was to their lands as fertilizer. Naturally the local papers made a terrible kick over the stench; but Sam satisfied the Board of Health

of both towns that he was engaged in a public improvement, altho the exact nature of his intentions was not immediately divulged.

The Morley end of the ditch was cleaned first, and already the Blue Line had obtained permission to run a series of tracks thru several side streets to the edge of the canal. Here certain properties were bought, the houses razed to the ground, and a gentle incline into the canal itself dug by Sam's steam shovels.

Where the Blue Line crossed the canal near the outskirts of Colfax, similar work was done. Then, and not until then, the Colfax & Morley Company, as well as the public at large, woke up.

Some leaky stockholder, pleased as Punch with the Goudsall manner of getting over a difficulty, "opened up" to a reporter, and the next day the papers were full of Sam Goudsall's idea.

The drained canal was to serve the Blue Line as an entrance into Colfax, and its terminal would be much more centrally located than that of the old trolley company.

Double tracks were to be laid in the old canal. The surface cars would enter the subway near Colfax proper; but fast express trains, competing not alone with the C. & M. cars, but with the steam railroad, would be run direct from the Morley terminal thru the fifteen-mile canal to the Colfax station.

Sam met Amy Pritchard at an evening affair, to which he had gone to bring his mother home. It must be confessed that he tried to dodge Miss Pritchard, but she walked up to the big fellow with a serious air.

"Mr. Goudsall," she said, "is it your plan, as the papers say, that has saved the trolley situation to the Blue Line?"

"I don't know about its saving them. It happened to strike me that the canal might be utilized."

Then he grinned.

"You know you said yourself that it ought to be cleaned out."

"And are you bossing the whole affair?"

"Well, the Old Governor lets me put my car in now and then," admitted the modest Goudsall junior.

"Sam," she burst forth. "I—I think it's just splendid!"

And then she walked away, leaving Sam too amazed, or confused, or some thing to grasp his opportunity.

A day or two later, however, he saw her riding with Jim Pepper behind the span, and he turned away with a shrug of his shoulders.

"Guess I haven't done enough yet," was his thought.

The work of building the subway road went on apace. Altho the people were highly desirous of having rapid transit, opposition finally appeared its gory head.

The Colfax City Council, originally well inclined towards the new trolley line, suddenly showed favor to the C. & M. Company. This change of feeling could probably be better explained by the treasurer of the C. & M. Company than by anybody else.

It was originally put forward that there had been a time limit clause in the franchise originally granted the Blue Line into Colfax.

This was to the effect "that said company agreed to build and establish its rails and cables upon said streets and to have and maintain in running order into Postoffice Square sufficient cars to amply deal with such traffic between Morley and Colfax on or before the first of July, two years hence."

Now, nobody had ever supposed that time clause would be thought of again. But later in the franchise ordinance it was plainly stated that any infraction

of the agreement by the Blue Line would invalidate its franchise.

The work of transforming the canal into a trolley road, with a station at Postoffice Square, was but half finished, and the first day of July was less than two months away.

III.

"Suppose we aren't ready to run cars by the first of July?" was the query Sam put to Goudsall senior.

"What then?"

"What then?" The old man roared this. Sometimes his son's calmness stung him like a nettle.

"You—qualified—fool!" he added. "They'll dish us quicker'n lightning. And Heaven only knows when we'll get another council in Colfax that will be favorable to us."

"It may take two or three years before we can get permission to run cars at all. Meanwhile—"

He couldn't finish it. Words failed him.

"Then what we must do is to finish the work and have the cars running on the date promised," Sam said coolly.

Well—I couldn't really repeat what Goudsall senior said then. But Sam waited until it was over.

"Give me the men and a free hand, and I'll do it, governor."

"You will!"

"That's what. I want my price for it, tho. I want to be manager of the whole road, with a decent salary. Do you realize that I've been working eight months for you and have never drawn a pay envelope yet?"

"You—you can't do it."

"You might as well let me try. I believe I'd make a good manager, too."

"You put the line thru and have the cars running on July first, and you can have any blamed thing you want," declared his father, with a good deal of admiration for his son's confidence.

And then Sam Goudsall went to work. He had only been playing before.

The red-headed center rush of the college football team, who had staggered half across the field at Abbers' with two husky fellows of the rival team on his back, making a touchdown unequalled in the annals of college sports, this fellow went at his task just as he played the game he loved.

Only so many men could work in the ditch to advantage, anyway; but every man of them worked. And the red-headed son of the president of the road was not afraid to work with them.

Parts of the old canal had to be rebuilt, and one afternoon—a ferociously hot day in June—a portion of the structure caved.

Jim Pepper, with Miss Pritchard at his side, happened to be driving along the canal road, for young Pepper was vastly interested in the progress being made upon the new trolley line.

At work rebuilding the broken wall, with a negro on one side and an Italian on the other, his white flannels in a terrible state, his huge arms bared to the shoulders, his face vying with his hair for color, was Sam Goudsall, laboring like any "tarrier." In an emergency he was not afraid to jump in and serve in any capacity.

Night and day the work was rushed. The rails were laid, and altho the heavy cars destined to be run the entire length of the old canal had not yet come from the shops, there were sufficient surface cars to answer the requirements of the time clause in the franchise ordinance.

Two days before the fateful first of July the last spike was driven and, altho the road-bed was rough in spots, and the entire canal gave the impression of being in a very unfinished state, cars could be run.

The wires were strung and connected, and the current tried. It began to look

as the Sam Goudsall would be general manager of the Blue Line.

On that evening, however, a note reached the young man. He found it in his mail when he arrived home after one of the hardest day's work of his life.

He had been over to Brighton to re-engage some of the men who had previously worked for the Blue Line. To get trained crews for the cars which would have to be sent over the road on July first was not so easy a matter.

This anonymous note read: "Guard your power-house and barns night and day. This, from a friend."

Sam Goudsall smoked a long pipe over it; then he went to his desk and searched out a very flat package of letters, each in a robin's egg blue envelope, and covering in their dates his college years, all being in the same handwriting.

He compared these notes with the brief lines of warning. Then he went to Goudsall senior and placed the letter before him.

"Pooh! pooh!" exclaimed the old gentleman, who was delighted over the grandstand finish of the road building.

"Some crank."

"We've beat 'em, Sam. You'll be manager all right. Why, I met Pepper himself on the street today, and he practically admitted he had thrown up the sponge. They know they're beat."

"If anything should go wrong at the last moment—with the power, for instance—where'd we be?" asked Sam.

"Nonsense!" exclaimed his father.

"I want a guard," declared Sam stubbornly.

"Nonsense!"

"Will you pay for it?"

"Nonsense!"

So Sam paid for four private detectives himself. They discovered nothing out of the way, but they hung about the Morley power house and car barns.

And when it came the night of June thirtieth, Sam remained in the same vicinity himself.

The newly engaged crews were harbored in neighboring boarding-houses. Sam had confidence in them. He was paying them above the union scale of wages and he felt pretty sure that the C. & M. people could not tamper with them.

He had already faced and downed one incipient strike on the canal work (by incontinentally thrashing an Italian labor agitator he was sure was sent by young Jim Pepper), and there would be no tampering with the wires or rails along the route, for a large gang of men were still at work clearing up and ballasting the tracks.

A strong current was turned into the feed cables, and nobody would monkey with them. What Sam really feared, he could not have told. Dynamite, perhaps.

After the strain of the past two months, that night's vigil was a hard experience for Goudsall junior. A dozen times before midnight he was on the point of agreeing with his father that he was a fool, and was tempted to go home and seek his bed.

Without doubt the four detectives, who had discovered not the first reason for watching the premises, would have been glad to see the "young boss" go, too. The night would have been much more peaceful for them.

At half-past twelve the last car came in and the barn was closed and left to silence and the watchman, who dozed in the starter's office. The first car, under the new orders, would leave the barns at precisely a quarter to six in the morning.

The detectives were at the power-house, for it was there Sam looked for trouble if any threatened. About two o'clock young Goudsall left them to

make a tour of inspection on his own hook.

This part of Morley was particularly quiet at night. The street on which the property of the Blue Line faced was well lighted and broad, bordered by nice residences. Back of the brick structures occupied by the huge dynamos and the rows of cars, lay open fields.

Sam walked back to get a view of these rear premises, and was just in season to see a two-horse wagon drive swiftly up to a rear door of the barn, over the soundless sod.

Out of the wagon tumbled at least a dozen men, evidently in a hurry. Sam stood in the shadow, transfixed with surprise, until the narrow door was skillfully opened.

He was near enough to see this, and to hear the orders of the man who was the leader of the gang. This leader looked so much like young Jim Pepper in a rough suit and slouched hat that Sam came pretty near calling out to him by name.

Then he happened to remember that he had something to do besides merely driving these marauders away. He had a personal quarrel to settle with Jim Pepper, as well.

So, on seeing the men enter the barn, and knowing what they were about, he hustled back to the power-house and gathered his forces together for impending battle.

The four detectives, the dozing watchman in the starter's office, and the assistant engineer, all armed, followed him back to the waiting wagon.

They halted within plain view and saw the men under Pepper bringing out of the barn armfuls of brake-handles and levers, and piling them in the wagon body. They were skillfully stripping the cars of such paraphernalia, and, had they not been discovered, when the motormen came to work in the morning not a car belonging to the Blue Line could have been moved!

Possibly Pepper senior had given up the fight, as Sam's father declared; but young Jim Pepper was stooping to plain larceny to best the new trolley company at the last moment.

Had this plan been successful, the Blue Line would have forfeited its franchise after all. Brake and lever handles could not have been obtained in time to run the cars over the new route and into Colfax.

Sam swiftly posted his men at every egress to the barns. Then he captured the half-laden wagon himself and drove it away with the men left to guard it bound hard and fast on the seat.

Hardly had the marauders learned that they were discovered, and been driven back from the doors after their first rush to escape, when, under Sam's command, the engineer in the power-house turned the full power of the great dynamos into the carshed. Instantly the great structure was brilliantly illuminated.

Like rats in a pocket, the men inside scurried to hiding places in the trenches and under the car seats.

They did not care to be recognized, of course. Sam was very sure that one of them was particularly anxious to remain unidentified.

The engineer at the power-house telephoned for the police, and six men and sergeant appeared. Then the would-be burglars were hauled out, one at a time.

Some gave themselves up more or less willingly, but all denied any connection with the rival trolley company. They had been primed to stand punishment for stealing brass castings, if misfortune overtook them.

But the man Sam wanted to have captured was not with them. He knew he had seen young Jim Pepper lead the way into the barn; but the police beat

up every possible hiding-place without result.

They went away with their prisoners. Sam Goudsall was puzzled and angry. He had a personal satisfaction to obtain from Jim Pepper.

"That rascal is somewhere in this shed. He's hiding in one of the cars, of course," he assured himself. "Ah! I have it!"

Under his instructions the detectives and watchman braked every car in the barn. Then (and it must be confessed with wicked delight) Sam turned the full power into the motors of each car one at a time.

When this was done to the third car there was a wild yell of dismay from within. The sputtering lights under the carshed roof showed a figure rising like a jack-in-the-box thru the cushions of one seat, beneath which the man had lain concealed.

Blue flames shot from the metal-work of the car, and the pungent odor of a burned-out fuse set the men to coughing. Out of the car tumbled Jim Pepper, and into Sam's ready arms.

"Ah-ha!" cried that young man, in joy. "Can you stand? Is there any fight left in you?"

Pepper had received a shock sufficient to scare him, but he was not materially injured. So Sam led him over to a cleared space at one side, where, under the electric lights, in an improvised ring guarded by the interested detectives and the watchman and the engineer, he gave the son of the C. & M.

president his choice of going summarily to jail or "putting up his fus."

Pepper was no coward. He chose the latter, and the two young fellows buckled to it and displayed no little science in their set-to—to the honor of their individual colleges.

IV.

The new general manager of the Blue Line took the first car out of the barn himself that morning for the run into Colfax; but he carried with him a deeply discolored eye and several choice bruises on his classic features. Jim Pepper, however, was taken home and put to bed in a much more battered condition.

Some days later, when the eye was cured, Sam Goudsall saw Miss Amy Pritchard at another evening party. She met him with even greater enthusiasm, and praised him for his successful efforts for the new trolley road.

Sam fought shy, and he left early to escape her.

"She'd have congratulated Jim Pepper the same way if he'd 'done' me," decided the young manager of the Blue Line.

"And any way, she was a traitor to him. None in mine! Gosh! you don't really know a woman, even after you've tagged around after her for ten years."

"Besides," was his self-satisfied conclusion, "I've got more than enough to attend to with the Blue Line, without getting myself mixed up with any petticoat!"

at the big bulletin boards where the crop and weather reports are posted. He does this almost unconsciously.

A city bred man, born and raised, he knows absolutely nothing of farming. I doubt whether he ever planted a single grain of corn in all his life. But he constantly astonishes me with his knowledge of crop conditions and shrewd comments on country affairs. He knows when they begin to harvest wheat in Oklahoma and when corn is beginning to tassel in Kansas. He can tell me when they need rain in Nebraska and when they had a frost in North Dakota. He has the whole thing at his fingers' ends; crop and weather conditions, railroad and steamship rates; the probable needs of foreign countries; the chances of competition from Russia or Argentina; the state of the money market—in short, everything that pertains to his business. He is not alone in this, for all of his business associates study the same thing.

They are, one and all, interested in the farmer and his crop, altho this interest usually manifests itself only when his crop is to be marketed. Nor is this interest a purely selfish one. They realize that in the last analysis the business prosperity of this country depends upon labor applied to the soil. They would therefore be most willing to assist the farmer in his work of crop production, just as they are now thru the agency of the government, coming to his aid with this \$50,000,000 of the nation's money. But they just don't know how to go about it.

True, many of these Boards of Trade and Chambers of Commerce have organized crop improvement committees, contributed toward local demonstration work, assisted in the organization of corn clubs, etc., etc. In other words, they have tried to work on "the two blades of grass theory." A moment's reflection will show that the only way to secure larger crops from a given piece of ground is thru the application of more labor and more fertilizer, the sowing of better seed, the utilization of better machinery—in a word, the employment of more capital in the working of that ground.

Meanwhile the increasingly large profits sought by the organizers of industrial enterprises, together with the increase of wage scale and shortening of the hours of labor by all classes of industrial laborers, are making it more and more difficult for the farmer to get this necessary capital. Without this capital, it is absolutely impossible for him to work in the direction of increased crop production. Failing in that, his purchasing power will be diminished, exactly as the profits and wages of the industrial classes are increased. This can mean but one of two things: Either the price of all foodstuffs must be increased in proportion to the increase of industrial profits and wages, or the purchasing power of the farmer must be so diminished that he will not only be unable to work in the direction of increased crop production, but will be unable to purchase those staple articles demanded by his standard of comfort.

An increase of the price of foodstuffs means an intensifying of this cry about "the high cost of living."

A decrease of the farmer's purchasing powers means a check upon the industrial and commercial activities of the country. Let both come together and it means the throwing out of gear of our whole economic and social organization—a dead stop or a panic.

If that is correct, then I fail to see how some plan to assist the farmer thru the agency of the federal government to produce crops must be deprecated as class legislation, when an effort to assist him in marketing his crops is welcomed by every business organization of the country. In other words, I fail to see how there can be any possible objection to the establishment, under direction of the federal government, of a rural credit system, which will enable the financially unorganized agricultural interests of this country to get what they must have if there is to be any material increase in crop production and betterment of our present economic and social conditions: Cheap and ready money. Without that, this "two blades of grass theory" is delusion and a dream.

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Many of your neighbors have not yet become readers of Pennsylvania Farmer. We want your help in interesting them in it.

Pennsylvania Farmer is the only farm paper devoted exclusively to Pennsylvania, New York, New Jersey, Delaware and Maryland. It is the best farm paper for the farmer in this territory because it concentrates its entire attention upon their needs. It is the home farm paper and better for practical value in just the same way that the home newspaper is better for home news than any other you can get.

No matter how many farm papers the farmer takes, the home farm paper comes first in practical value.

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3 " 1.25; " 40 "	
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Subscriptions for one year or more may be either new or renewal and club may be made up of subscriptions for any of the periods. Orders may be sent to us as fast as taken and clock will be sent when required club is completed.

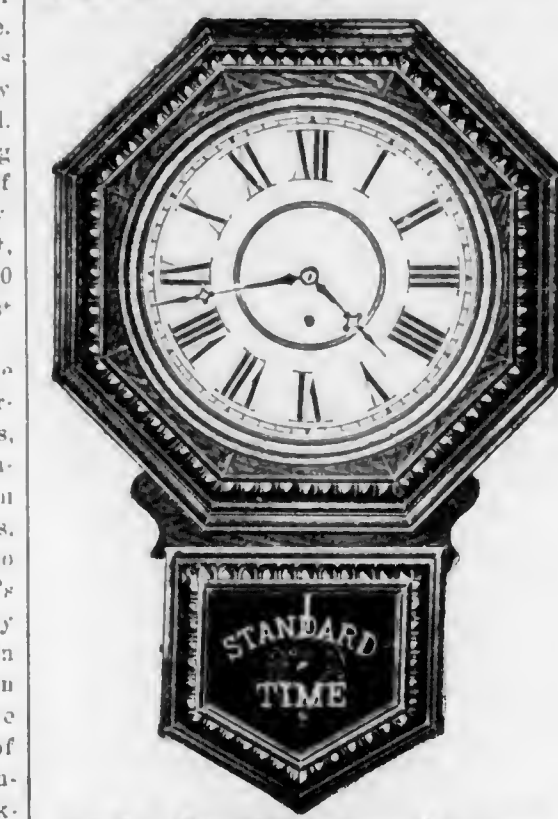
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Markets

PHILADELPHIA PRODUCE

Philadelphia, Pa., Sept. 8, 1913.
Butter—Trade quiet. Unattractive stock arriving, brought corresponding prices. Good egg stock in demand at fancy prices, but much of stock is unattractive and brought poor prices. Light receipts of good stock in live and dressed poultry was the rule, with demand only fair. In green fruits receipt were moderate, values ruling steady; but trade was quiet. Vegetables fluctuating in trade and prices.

Butter—Creamery, 34¢; extras, 31¢; firsts to seconds, 27¢ to 29¢; special firsts, 30¢ to 34¢; near-by firsts, 34¢.
Cheese—New York full cream, 16¢; do. fair to good, 15¢ to 16¢.
Eggs—Candled, 33¢ to 36¢ doz.; extras, 31¢. Current receipts at \$8.10 per case.

Poultry—Fowls, 17¢ to 18¢; old roosters, 12¢ to 13¢; pigeons, old, 23¢ to 25¢; young, 18¢ to 20¢ pair.
Dressed Poultry—Western fowls, 18¢; roosters, 13¢; chickens, 20¢ to 21¢; squabs, \$2.00 to \$2.25 per 10.

Vegetables—White potatoes, Jersey, new, 40¢ to 45¢ basket. Onions, 75¢ to \$1.00 bu. bumper crop, 8¢ to 10¢ doz. Tomatoes, 10¢ to 12¢ doz. Eggplant, 10¢ to 15¢ basket. Cabbage, 25¢ to 30¢ basket. Lettuce, 1.00 to 1.50 basket. Beets, 2¢ to 3¢ doz. Radishes, 1¢ to 2¢ doz. Sweet potatoes, Jersey, 40¢ to 45¢ basket. String beans, 25¢ to 35¢ basket. Peas, 1.50 to 2.00 bushel. Tomatoes, 10¢ to 12¢ doz. Corn, 35¢ to 40¢ basket. Squash, 15¢ to 35¢ basket. Cucumbers, \$1.25 to 1.50 doz. Lima beans, 40¢ to 50¢ basket. Celery, 13¢ to 15¢ doz.

Fruit—Apples, 3.75 to 4.00 bbl. Huckleberries, 9¢ to 11¢. Peaches, New York, 40¢ to 45¢ basket. Connecticut, 60¢ to 65¢. Pine apples, per crate, \$3.00. Grapes, Delaware, 50¢ to 55¢ basket. York State, 12¢ to 14¢ basket. Cantaloupes, 90¢ to \$1.00 doz. box. Peas, 1.50 to 2.00 bushel. Plums, 25¢ to 35¢ 5-lb. basket.

Hay and Grain—No. 1 hay, large bales, \$18.00 to \$18.50; No. 2, \$16.00 to \$17.00; No. 3, \$13.00 to \$15.00; No. 1 medium, \$17.00 to \$18.00. No grade, \$5.00 to \$10.00. New clover, No. 1, \$14.00 to \$15.00; No. 2, \$12.50 to \$13.00; mixed hay, light mixed at \$15.00 to \$16.00; New straw, No. 1 new straight, \$14.00 to \$15.00; No. 2 do., \$13.00 to \$14.00; No. 3 do., \$12.00 to \$13.00. No. 1 Northern, 99¢ to \$1.00; No. 2 white No. 1 wheat straw, \$8.00 to \$8.50; No. 3 do., \$7.50 to \$8.00. New shelled corn, No. 2 yellow, 75¢ to 80¢; steamers yellow, 80¢ to 85¢. Wheat, No. 2 red, 90¢ to 95¢. No. 1 northern, 90¢ to \$1.00. No. 2 white oats, 45¢ to 49¢. Standard white, 48¢; No. 3 white, 47¢ to 48¢.

Hides and Skins—Steers, abattoir, 16¢ to 17¢; do country, 14¢ to 15¢. Cows, country, 13¢ to 14¢. Bulls, abattoir, 13¢ to 14¢; do country, 12¢ to 13¢. Calf skins, No. 1 to 12 up to \$1.40 to \$1.70; do green, 1.40 to 1.50.

Coffee—Rio, 75¢ to 85¢; Santos, 85¢ to 1.15 to 1.25. Mild Coffee—Cordova, 1.30 to 1.60. Sugar—Cent, 5¢ to 6¢. Cakes, 5.05; powdered, 4.90; granulated, 4.80; standard granulated, 4.85; crystal A, \$4.80; B, \$4.75; C, \$4.70. Flour—For home use, winter clear, new, \$3.75 to \$3.90; do. straight, new, \$4.00 to \$4.20; favorite brands, \$5.00 to \$5.50. Rice—Hull, 10¢ to 12¢; do. head, 12¢ to 15¢ per 100 lb.

Provisions—City beef, smoked and air-dried, 25¢ to 26¢. Beef hams, 35¢ to 37¢. Pork, family, \$22.00 to \$24.00. Lard, cured, 16¢ to 17¢; do. smoked, 17¢ to 18¢. Bacon, 19¢ to 22¢. Other hams, smoked, city cured as to quality, 16¢ to 18¢. Breakfast bacon, as to quality, 12¢ to 25¢. Lard, refined, 12¢ to 15¢. 12¢ to 15¢; do. in tubs, 12¢ to 15¢. 12¢ to 15¢; do. kettle rendered, 12¢ to 15¢. Tallow, prime city, 7¢; do. country, 7¢; do. dark, 6¢; do. cokes, 7¢.

Philadelphia Retail
Vegetables—Onions, 1.00 to 1.25 bu. Peppers, 50¢ bas. Eggplants, 50¢ bas. Cabbage, 50¢ basket. Lettuce, 30¢ to 35¢ pk. Beans, 2 lbs for 5¢. Radishes, 2 lbs for 5¢. Sweet potatoes, 10¢ to 12¢ doz. Lima beans, 40¢ bas. String beans, 60¢ bas. Tomatoes, 10¢ to 12¢ doz. Corn, 35¢ to 40¢ basket. Squash, 15¢ to 35¢ basket. Cucumbers, \$1.25 to 1.50 doz. Lima beans, 40¢ to 50¢ basket. Celery, 13¢ to 15¢ doz.

Fruit—Apples, 3.75 to 4.00 bbl. Huckleberries, 9¢ to 11¢. Peaches, New York, 40¢ to 45¢ basket. Connecticut, 60¢ to 65¢. Pine apples, per crate, \$3.00. Grapes, Delaware, 50¢ to 55¢ basket. York State, 12¢ to 14¢ basket. Cantaloupes, 90¢ to \$1.00 doz. box. Peas, 1.50 to 2.00 bushel. Plums, 25¢ to 35¢ 5-lb. basket.

Hay and Grain—No. 1 hay, large bales, \$18.00 to \$18.50; No. 2, \$16.00 to \$17.00; No. 3, \$13.00 to \$15.00; No. 1 medium, \$17.00 to \$18.00. No grade, \$5.00 to \$10.00. New clover, No. 1, \$14.00 to \$15.00; No. 2, \$12.50 to \$13.00; mixed hay, light mixed at \$15.00 to \$16.00; New straw, No. 1 new straight, \$14.00 to \$15.00; No. 2 do., \$13.00 to \$14.00; No. 3 do., \$12.00 to \$13.00. No. 1 Northern, 99¢ to \$1.00; No. 2 white No. 1 wheat straw, \$8.00 to \$8.50; No. 3 do., \$7.50 to \$8.00. New shelled corn, No. 2 yellow, 75¢ to 80¢; steamers yellow, 80¢ to 85¢. Wheat, No. 2 red, 90¢ to 95¢. No. 1 northern, 90¢ to \$1.00. No. 2 white oats, 45¢ to 49¢. Standard white, 48¢; No. 3 white, 47¢ to 48¢.

Hides and Skins—Steers, abattoir, 16¢ to 17¢; do country, 14¢ to 15¢. Cows, country, 13¢ to 14¢. Bulls, abattoir, 13¢ to 14¢; do country, 12¢ to 13¢. Calf skins, No. 1 to 12 up to \$1.40 to \$1.70; do green, 1.40 to 1.50.

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Pennsylvania Farmer

September 13, 1913.

Choice, 20¢ to 30¢; prints, 32¢ to 35¢; blocks, 30¢ to 32¢; Maryland and Pennsylvania, 22¢ to 23¢. Process, 27¢ to 28¢.
Eggs—Near-by, firsts, 27¢; western, 27¢; southern, 26¢ to 27¢. Sweet potatoes, 10¢ to 12¢ doz. Lima beans, 25¢ to 35¢ bas. Eggplant, 15¢ to 20¢ bas.

Vegetables—Potatoes, white, 65¢ to 80¢ bu. Cabbage, \$3.00 to \$3.50 per 100. Onions, 90¢ to \$1.00 bu. Lettuce, 50¢ to 75¢ per bu. box. Peppers, 15¢ to 20¢ basket. Squash, 15¢ to 20¢ basket. Cucumbers, 30¢ to 40¢ bas. Beans, green, 50¢ to 60¢ bu. Beans, 1½ to 2¢ bunch. Green corn, 8¢ to 12¢ doz. Sweet potatoes, 10¢ to 12¢ doz. Lima beans, 25¢ to 35¢ bas. Eggplant, 15¢ to 20¢ bas.

Fruit—Apples, new, \$1.50 to \$3.50 bbl. Peaches, 50¢ to \$1.75 bas. Pineapples, \$2.00 to \$2.50 crate. Cantaloupes, 40¢ to \$1.00 crate. Grapes, 12¢ to 14¢ basket. Pears, \$2.00 to 3.50 bbl.; seedless, 50¢ to 60¢ basket. Grain—Wheat, No. 2 red western, 94¢ to 95¢; No. 3, 92¢ to 93¢. Corn, fresh shelled yellow, 85¢. Oats, No. 3 white, new, 44¢ to 45¢; standard white, 45¢ to 46¢. No. 3 white, 44¢. Rye, 60¢ to 70¢.

Hay and Straw—No. 1 timothy, \$17.50 to \$18.00; No. 2 timothy, \$16.50; No. 3 do., \$15.00 to \$16.00; No. 4 do., \$14.00 to \$15.00. No. 1 timothy, \$17.50 to \$18.00; No. 2 do., \$16.50; No. 3 do., \$15.00 to \$16.00. No. 1 timothy, \$17.50 to \$18.00; No. 2 do., \$16.50; No. 3 do., \$15.00 to \$16.00. No. 1 timothy, \$17.50 to \$18.00; No. 2 do., \$16.50; No. 3 do., \$15.00 to \$16.00.

Milled—Spring bran, \$25.00 to \$26.00; middings, flour to white, \$27.00 to \$30.00; western middings, \$27.00 to \$27.50; city mills, \$27.00 to \$27.50.

NEW YORK PRODUCE

New York City, Sept. 8, 1913.
Good but not a great stock and prices good for this grade. The butter receipts are light. Demand for best free eggs exceeds supply. Fancy new-laid eggs in demand at high prices. Poultry market rather weak and uncertain. Fruits and vegetables in pretty good movement at steady prices.

Butter—Creamery, firsts to extras, 28¢ to 31¢; thirds to seconds, 24¢ to 27¢; factory, 20¢ to 25¢; state dairy, 23¢ to 26¢; packing stock, 20¢ to 25¢; process, 22¢ to 25¢. Cheese—Whole milk, specials, 15¢ to 16¢; do. common to fancy, 12¢ to 16¢; skims, 14¢ to 15¢.

Eggs—State and near-by, 23¢ to 30¢. Gathered, 16¢ to 30¢; mixed, 23¢ to 30¢. Dressed Poultry—Turkeys, 18¢ to 20¢; chickens, 17¢ to 18¢; fowls, 13¢ to 15¢; old roosters, 12¢ to 13¢; ducks, 10¢ to 13¢.

Live Poultry—No prices established. Grain—Wheat, No. 2 red, 96½¢; No. 1 Northern, 99¢; Corn, export, 86¢. Oats, standard, 45¢ to 49¢.

Vegetables—Cabbage, \$1.25 to 1.75 bbl. Green beans, 50¢ to \$1.00 basket. Carrots, 70¢ to 75¢ basket. Cucumbers, 50¢ to \$1.00 basket. Lettuce, 15¢ to 20¢ basket. Squash, 25¢ to 50¢ basket. Peas, 1.50 to 2.50 basket. Celery, 10¢ to 25¢ per doz. stalks. Onions, 75¢ to \$1.50 basket. Tomatoes, 25¢ to 75¢ per box. Peppers, 25¢ to 40¢ basket. Beets, \$1.00 to \$1.50 bunches. Potatoes, \$2.00 to \$2.50 bushel. Sweet potatoes, 75¢ to \$1.00 bbl. Eggplants, 25¢ to 50¢ basket. Lima beans, 75¢ to \$1.25 basket.

Fruit—Apples, new, \$1.00 to \$1.50 bbl. Peaches, \$1.00 to \$1.50 carrier. Blackberries, 9¢ to 15¢ qt. Raspberries, 8¢ to 10¢ qt. Huckleberries, 8¢ to 10¢ qt. Muskmelons, 75¢ to \$1.00 per standard crate.

Washington, D. C., Sept. 8, 1913.
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Live Poultry—Hens, per lb., 16¢ to 18¢; roosters, 10¢; springers, 10¢ to 12¢. Vegetables—Potatoes, bbl., 75¢ to \$2.50. Onions, \$2.50 to \$3.00 per basket. Beans, 50¢ to 75¢ per basket. Peas, 1.50 to 2.50 crate. Beets, \$1.00 to \$1.50 bunches. Carrots, 70¢ to 75¢ basket. Cucumbers, 50¢ to \$1.00 basket. Lettuce, 15¢ to 20¢ basket. Squash, 25¢ to 50¢ basket. Peas, 1.50 to 2.50 basket. Celery, 10¢ to 25¢ per doz. stalks. Onions, 75¢ to \$1.50 basket. Tomatoes, 25¢ to 75¢ per box. Peppers, 25¢ to 40¢ basket. Beets, \$1.00 to \$1.50 bunches. Potatoes, \$2.00 to \$2.50 bushel. Sweet potatoes, 75¢ to \$1.00 bbl. Eggplants, 25¢ to 50¢ basket. Lima beans, 75¢ to \$1.25 basket.

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Vegetables—Potatoes, easy. Home-grown, 15¢ to 20¢ bu. Cabbage, 1.00 to 1.50 crate. Onions, 75¢ to 80¢ sack. Beans, green, 60¢ to 70¢ bu. Tomatoes, 10¢ to 12¢ doz. Celery, 80¢ to 1.00 doz. Spinach, 40¢ to 50¢ hamper. Tomatoes, 75¢ to 80¢ bushel.

Fruit—Apples, \$3.50 to \$3.75 bbl.; green, do., \$2.50 to \$2.75. Quince, 1.00 to 1.50 crate. Honey—Firm, No. 1 fancy, 10¢ to 12¢. No. 2 new, 13¢ to 15¢; dark, 12¢.

Hay—Steady. Timothy, choice on track, \$17.50 to \$18.00; No. 2 do., \$16½¢; No. 3, \$14½¢; 15; light mixed, No. 1, \$13½¢ to \$14.00; rye straw, \$5.00 to \$5.50; oat and wheat straw, \$7.00 to \$7.50. Feed—Firm, spring bran, \$24.00. Standard midds, \$31.50. Cornmeal, \$33.00. Gluten, \$37.50. Hominy, \$31.50. Oilmeal, \$37.00. Cottonseed meal, \$37.00.

PHILADELPHIA LIVE STOCK

Philadelphia, Pa., Sept. 8, 1913.
The market closed dull and lower, with Virginia grass cattle mostly in evidence, current supplies being more than equal to the demand. The hot weather conditions depressed trade. Cows and calves were fairly steady, but only in the better grades, demand being light.

Beef Sheep and Hogs
Cattle—Lamb, 14,567 4,146
Total for week 3,425 14,567 4,146
Previous week 3,723 14,970 4,654
Best steers 14,567 4,146
Hulls 14,567 4,146
Good 14,567 4,146
Medium 14,567 4,146
Poor 14,567 4,146
Lamb 14,567 4,146
Hog 14,567 4,146

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WE DEFY THE RETAIL DEALERS TO STOP US!

Great Price War Now On! We Dare Dealers to Make Us Stop Selling Goods Below Cost, Direct to the Public

Smash Go Prices in "Defiance" Book of Bargains

All efforts of Retail Dealers throughout the Country to compel the Manufacturers Outlet Co. to STOP CUTTING PRICES and SELLING GOODS DIRECT TO THE ACTUAL USERS AT LESS THAN COST OF MAKING have thus far utterly failed. We refuse to permit these dealers to tell us how to run our business.

They started the fight by open threats to put us out of business unless we agreed to cut out the consumer and sell only to retailers, jobbers and wholesalers.

Our answer was a broadside of bargains at lower prices than ever.

Nine Acres of Goods

These vast stores of goods are turned in by overstocked manufacturers when pressed for ready cash. They ask no profit—having already "cleaned up" on goods sold to jobbers and wholesalers. Think of nine acres of bargains like these, from which to pick and choose!

All New Goods—No "Seconds"

We handle no "left overs"—no seconds—no "shelf-worn" stocks. Everything is brand new, high grade and of guaranteed quality—the best the market affords.

These stocks include Lumber, Millwork, Sash, Doors, Rubber Roofing, Corrugated Steel Roofing, Boilers, Hardware Supplies, Furniture, Carpets and Rugs, Curtains, Washing Machines, Plumbing Outfits, Kitchen Cabinets, Milk Cans, Iron Wheels, Wickless Blue Flame Kerosene Oil Stoves, Kitchen Utensils, Rainproof Coats, and hundreds of miscellaneous articles.

All of these bargains fully described and offered at extraordinarily low prices in our big new Free Book of Bargains.

Roofing—10,000 rolls 1-ply Rubber Remnants, only 59c per 108 square feet. 2-ply 83c per 108 square feet. This roofing is guaranteed to resist fire, water, snow, heat, cold and acid. Nails and cement free, easy to put on, you don't need to hire a mechanic to do the job.

Paint—500 gallons of the paint that covers. Only \$1.06 per gallon when bought in five-gallon cans. Best quality barn paint 78c. This paint covers more square feet surface for surface per gallon than any other.

Brushes—5,000 paint and varnish brushes at cost. Genuine Chinese bristle 2x2½ flat paint brush 11c.

Wall Board—50,000 feet genuine Buffalo Wall Board at \$2.35 per 100 square feet. Twice as cheap as lath and plaster, four times as easy to put on. Anybody can do the work. No waiting for it to dry before putting on. Never chips, cracks or checks like plastering. Fire-proof, sound-proof, rat-proof and mouse-proof. Warmer than lath and plaster. Unaffected by weather conditions.

Fencing—Don't miss this wire fencing sale. 50,000 rods of open hearth crimped steel wire fencing. The kind with patent knot. Heavily galvanized, won't peel or flake. Extra hardened line wires,

always stiff and tight. A 10-wire 47-inch high field fence only 22c per rod. Heavy hog fence 17c per rod and other sizes at bargain prices.

Rubber Shingles—The latest thing in ready roofing. Made of wool felt and pure asphalt. Crates containing 100 sq. feet with nails and cement, \$2.15.

Plumbing—Everything in the sanitary plumbing line—bath tubs, lavatories, closets and fittings. Get our complete plans for installing without the need of an experienced mechanic.

Bed Combination—Consisting of guaranteed iron bed, heavily enameled, vermin-proof all iron spring and soft top mattress only \$8.75.

White Enameled Iron Bed—Made of the best welded steel tubing, full size \$3.45.

Rugs—The very best seamless Brussels rugs in one piece, 6x9, \$5.75, 9x12, \$11.25.

Stock and Die Set—Armstrong pattern Stock and Die Set, will thread pipe from ¼ inch to 1 inch, with half the effort needed on other styles, \$3.20.

Bench Vises—Heavy iron vises only \$2.38.

Saws—The Outlet Special, warranted, only 39c.

Agricultural Forges—For rivet heating and light repair work, \$4.05.

Anvils—Buffalo all-steel; all weights up to 200 pounds, per pound, 8½c.

Pianos—300 of the finest pianos made have been given us for quick sales. A Cabinet Grand only \$126.25.

Furs—A large over-stock of the latest styles in fur pieces have been turned over to us to sell quick. Only 100 pieces left.

Dining Table—Square oak extension, 42 inches wide, 6 feet long, \$5.10.

Chiffonier—Seasoned selected oak, finished in gloss golden oak, 3 large drawers, genuine French beveled mirror 12x20 inches, weight 105 lbs., our price \$5.25. Only 45 left.

Silverware—Several lines of the very best silverware manufactured are offered at prices that will save you money. Write at once before the best patterns are sold.

Trunks and Bags—A complete line of travel supplies in our new book save you 50 per cent. Suit cases, bags and trunks.

Rubber Boots—The very best line rubber boots manufactured, in every style. These boots will outlast others 2 to 1.

Harness—The Quality harness offered in our Book of Bargains is very fine, much better than the usual kind for buggy, wagon and farm.

Washing Machine—50 high speed washers for power or hand. All top gears enclosed, easy to run and washes perfectly, only \$3.45.

Base Burners—Large 15 in. fire pot heater with all the latest improvements, well nickled, only \$24.75.

Cut Glass—For holiday gifts. Finest cutting. Sugar and Creamer, \$1.68. Seven piece water set, \$5.50. Heavy 8-inch bowl, \$2.48.

Parlor Tables—Solid oak center tables with 24x24 inch top and turned legs, \$1.48.

Rockers—Beautiful upholstered Buffalo Leather Rockers with spring edge, 37 inches high, \$7.00.

The public jumped at the chance to buy all kinds of high grade goods at record-breaking reductions. Thousands of families are cutting their living expenses almost in half by buying direct from us.

Our business this year is three times greater than it was the year before. So this Price War, started by retail dealers in an effort to knock us out has been a tremendous boost.

Our plant now covers nine acres—packed to the roof with bargains—hundreds of articles now actually selling at less than the cost of making.

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BOOK OF BARGAINS FREE

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VOL. 34.—No. 12

PHILADELPHIA, PA., SATURDAY, SEPTEMBER 13, 1913.

2 YEARS FOR \$1.00.

Water in the Farm-House. ---By William Draper Brinckle, Architect.

In the Year-Book of the Department of Agriculture for 1909, one reads: "The days of the home spinning wheel and loom are past, but in many farm houses little has yet been done to lessen the burden of women's work. * * * There are thousands of such homes wherein no provision has been made for such necessities as a bath-room, a kitchen sink, and water under pressure."

Exactly! None of us would think of cutting our wheat with a cradle, or threshing it with a flail; and yet, too often, our modern methods and labor-saving devices stop short at the door of our home. Inside the house, we have the same old conveniences, or want of conveniences, that our grandfathers had; and yet we wonder why our daughters and our sons stream away to the cities, instead of staying on the farm!

Now, in some few cases, a sheer lack of money keeps the farmer from putting in a water-system; but in most instances it is not so much the want of means, as the want of information. The city man stops in at the plumber's shop, on his way down town, and takes perhaps a half hour to order a new bathroom; it is merely a question of choosing between this or that priced tub.

But the farmer has far more serious problems. He must provide his well, his pump, his power, his water storage, his sewage-system, and so on. Besides, skilled plumbers are rare in country districts, and there is no city plumbing-inspector to see if the work be done well or poorly. What wonder, then, if the farmer sometimes balks at such a forbidding list. "I don't know anything about it, so I guess I'd better keep clear," he says, and gives up all idea of bath-room and water-supply. So then, a little talk on these things may not be amiss.

Water Storage.—All water-supply systems must have some method of keeping a more or less large body of water in storage, ready to be drawn on as needed.

In cities, we have the water tower or the open reservoir, set at some high point. From this the water flows by gravity down into the street-mains, and thence to the houses. Of course, this water will rise up to the bath-rooms, etc., seeking to regain its original level. On the farm, we may have: The open reservoir, the raised tank or the pressure tank.

The open reservoir can only be built where there is a neighboring hillside within a reasonable distance, high enough to let the bottom of the reservoir be somewhat above the level of the bath-room fixtures. This reservoir can sometimes be built by damming up a little hillside stream; but, usually, one must make a square box of concrete, sunk in the earth. Mix this concrete in the proportion of one part cement, and five parts clean sand and gravel, free from loam. Wet

it to consistency to pour readily and pour it in place, tamping tightly down. Eight-inch walls and bottom will usually answer for a small tank. For a large one, we must increase them proportionately. Re-



A SIMPLE LAVATORY.

Notice that Basin, Back and Top are All Made in one Piece.

Courtesy Flick Bros. Co.

member, also, that even the best concrete is porous and will leak unless we mix some special water-proofing compound with it. Your cement dealer can

use. It is better, however, to make one's reservoir large enough for at least two day's supply; and then, too, it is always a good plan to provide for the future, somewhat. The pipe from the reservoir to the well and the house should be galvanized to prevent rust, and laid sufficiently below ground to be safe from frost.

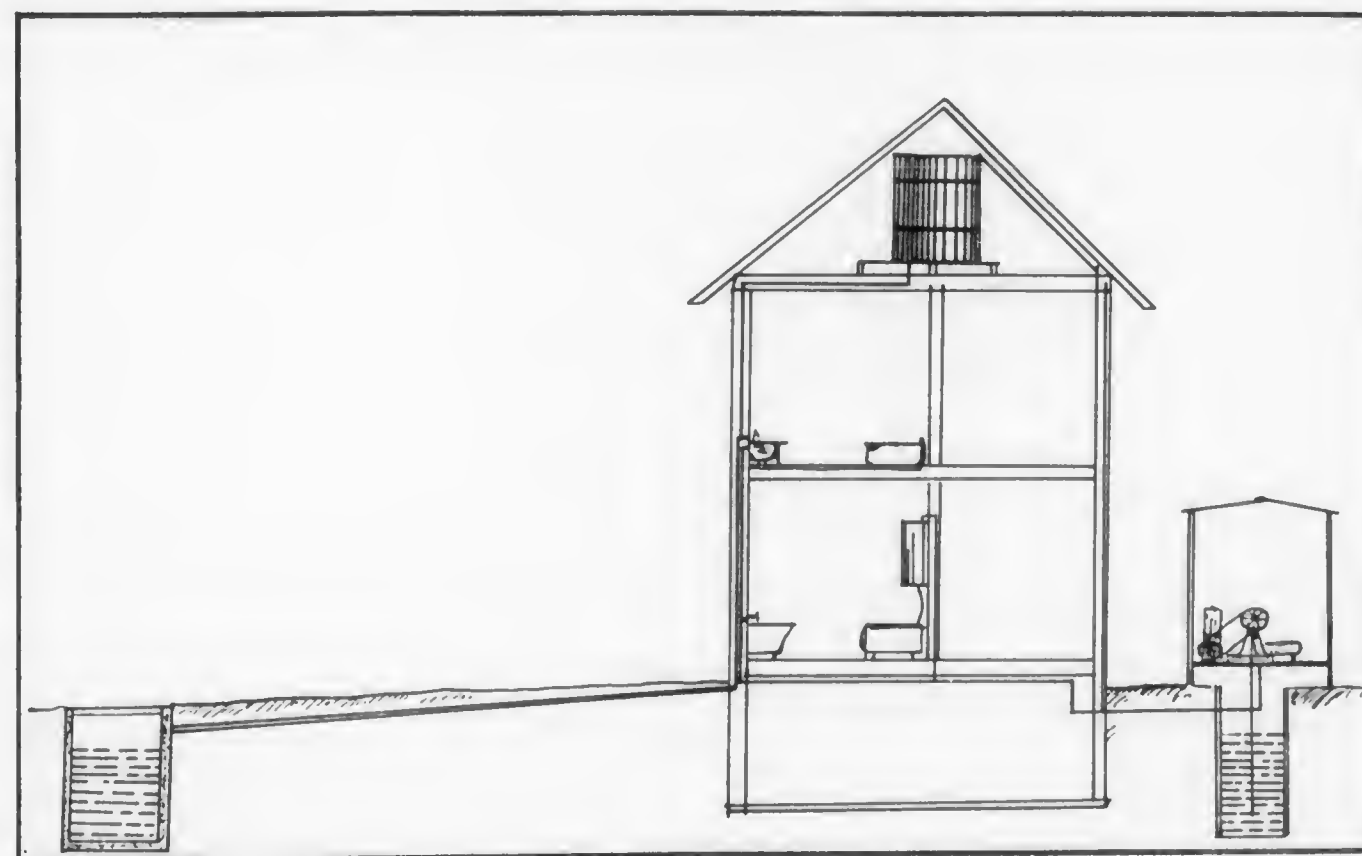
The objection to this open reservoir is that it will freeze in severe weather, although, except in the extreme northern states, the freezing will be comparatively slight. Instead of the open reservoir, one can use a raised tank, set up on a high tower or other building. A wooden tank, holding 220 gallons, will cost about \$30; the tower will, of course, be extra. Quite frequently this tank can be set in the upper part of the barn, or even on the roof. If it is set in the attic of the house, there must be a lead-lined drip pan underneath, to catch the leakage. Remember, too, that this water-filled tank is heavy and must be strongly supported. If set on an outdoor tower, there is usually some trouble from frost; the supply pipe almost invariably freezes in winter, no matter how one may box it and pack it. This danger is greatly lessened when the tank is indoors.

The pressure-tank system, on the contrary, runs no risk of freezing. Here we have a closed iron tank, shaped like a steam-boiler, and set in the cellar, or else buried in the earth. A mixture of air and water is forced into this, by the pump; the force of the compressed air drives the water up to the bath-room, or wherever it is wanted. For a five-person family, one should have a 315 gallon tank. This holds about 220 gallons of water and 95 gallons of air. Such a tank costs about \$60. If we want it galvanized, a few dollars more must be paid. The water in such a tank is always cool in summer, and never freezes in winter.

Pump Power.—For forcing the water into the storage-tank or reservoir, one has choice of the following means: The hand-pump, the hydraulic ram, the windmill, the hot-air engine, the electric pump, or the gasoline engine. Let us consider these different powers, in their order.

The hand-pump will cost from \$10 to \$25, according to the depth of the well, the amount of pressure needed, etc. Save for very small families, however, this hand-pump is not at all advisable; the time spent in pumping is quite a serious item in busy seasons.

The hydraulic ram is, in many respects, the ideal water supply system. It needs practically no attention, costs nothing to run, and may cost from \$15 to \$50 to install. It has its limitations, however, for it requires a running spring, breaking out of a hillside, with a flow of not less than three gallons per minute, and a fall of at



THE ATTIC TANK WITH ENGINE PUMP.

doubtless get such a compound for you; the cement manufacturers will know all about it, anyway, if you write them.

For a family of five persons a tank 4 feet deep, 3 feet long and 3 feet wide will hold one day's supply, making no allowance for barnyard or stable

least four feet. If this spring is at an excessive distance from the house, the additional piping increases the cost quite a little. A ram never works very satisfactorily with a pressure tank; one must have the open reservoir or the raised wooden tank.

The windmill has certain advantages over the ram. One can use it with an ordinary well, and it will work with a pressure-tank or any other storage-system. It costs nothing to operate; but in calm weather it is useless, and a very severe gale sometimes wrecks it.

The hot-air engine was in great demand a few years ago, and is still to some extent. Its cost with pump varies according to size and power. To operate it, one must build a fire and that takes time and makes trouble. The cost of fuel is insignificant; much less than the gasoline engine, for instance. But, nevertheless, the hot-air engine seems to be losing its popularity to some extent.

The electric-motor pump is ideal if one is near enough to town or trolley-line to get current. Its cost also varies but averages about \$150.

All things considered, the gasoline

regular goods, put out a line of what they call "competition fixtures," to be sold at an extremely low price. These are put in the houses that unscrupulous contractors build "to sell," and are absolutely worthless, going all to wreck in a few months' or years' time. Therefore, if you see some bathtub or water-closet advertised at a wonderfully low price, be mighty wary before you send your check for it. Insist on a two-year guarantee. If the dealers refuse to give such guarantee it is pretty good evidence that they haven't any confidence in their own goods, isn't it?

Bath-tubs are made of heavy cast-iron, painted outside but porcelain-enamelled inside. The thickness and strength of this porcelain enamel determines the quality of the tub, for cheap, thin enamel will crack and peel off.

The old-fashioned water-closet had a straight funnel-shaped bowl, called a "hopper." This "hopper" closet is very unsanitary, and is forbidden by law in all large cities, the "siphon" closet taking its place. The old style tank was placed about six feet above the closet, but nowadays it is put very

the cheapest, and I have always found them fairly satisfactory. Of course, the enameled or porcelain ones are somewhat easier to keep clean.

To heat the water, one must have a large galvanized iron boiler set up right in the kitchen, connected with a pipe-coil in the cook-stove. For an average family, a 30-gallon boiler is about right.

The matter of piping for a water system is an extremely important one, especially the waste-pipe. The pipe from the water-closet must be heavy cast iron (not terra-cotta) and, all the joints must be filled with melted lead, driven in with a calking-iron. Too often, cement or putty is used here. This soon cracks, permitting disease-laden gases to escape into the rooms. After the pipe has been run outside the house one may begin to use terra-cotta; but not until then. A "vent-pipe" runs up from the back of the water-closet, opening above the roof. This permits the harmless escape of sewer-gas which might otherwise force its way into the house. Unscrupulous plumbers will sometimes omit this vent-pipe, or not run it high enough. It should be entirely above all dormer

and save what grows on the farm.

One lesson we are learning, that it is not profitable to select seed from the bin or crib, that seed left to itself runs out rapidly. The time to save potatoes for seed is before the field is dug. In every row there is a percent of weak hills, those which will give a maximum number of small potatoes and a minimum number of large ones. To save seed, no matter how perfect the specimens, from such a hill would be ruinous simply for the reason that the tendency of that hill is downward. The man who selects from the bin is sure to get seed from such hills and it hurts production. Surely if one is to use whole seed the risk is increased because of the number of small potatoes from those weak hills.

The thing to do is to go thru the field before digging and when a hill is found that has been more resistant to disease, has stouter stalks, and the leaves keep green while all about there is the mark of ripening, dig that hill and if it carries seven or more merchantable potatoes, of desired shape and few small ones, save that hill for seed. If prices are so good that you want to sell all you can, there is the greater reason for taking the specimens, just too small to send to market, and save these. In this way you are breeding up for you are sure to be using only the best from the field.

Don't wait for those potatoes to be fully ripe, for good seed must be in the storage bins before that time. Good seed must carry as large a percentage of nitrogen and starch as possible. As potatoes ripen the starch content is likely to increase, provided the food supply has been ample and the vines protected from bugs and rust; but as this ripening goes on the nitrogen is likely to fall off, to the injury of the potato as seed. Now we are coming to the idea of the right time as against the wrong. Save from the strongest, healthiest hills, those which keep green the longest, and save uniform seed.

Growers of sweet corn have long since learned that if most complete germination is to be insured, the seed must be broken from the stalk when just too hard to boil, that if left until well ripened the germinating power is minimized. It is the same with flint and dent corn. As corn ripens, chemical changes take place which in some degree affect reproductive powers. Beyond this, I want every ear of seed I use to come from a stalk of good length, stout at the base and tapering well to the tip, without suckers or side shoots, and with the ear set close to the stalk. The ear should be of good length, filled with large, broad, deep, thick kernels and filled to the cob.

For one, I care more for the length of the ear, the number of kernels than size and substance than for the symmetrical ear. I know I strike a something which the corn fancier will take exceptions to, but the only standard for the farmer is that of utility. Yield per acre or quality of product are not dependent on the perfectly tipped ear. What corn growers want to get fixed in their minds is that the limit of production has not been reached, and the whole problem rests not with the ear but with the man.

What is true with corn and potatoes applies with equal force to all seed. It should be selected and carefully saved when coming, not grown, and surely it should be in every way the best the farm produces. If this be the rule, then it is only necessary to select at the right time and in the right manner for a steady increase in production and improvement in quality to follow. Save your seed now.—Dr. G. M. Twitchell, Monmouth Co., Me.

Our Farm Counselor

By R. P. Kester, Penna. Farm Advisor on Soils and Crops.

Staple Productions.—Grass, grain and stock must continue to be the leading products for the general farmer. In fact, what is known as the general farmer is the most important of all the types of agriculturists. These crops are not only the main stay of commerce and the great need of mankind, but, under proper management, are the basis of maintaining fertility and prosperity.

There seems to be on the part of many, at the present time, a tendency to hunt for some easier, better-paying line of farming. Many writers and speakers emphasize their particular line as the most profitable and urge the wholesale adoption of that as a sure road to wealth. If every farmer were to follow such advice and go into fruit growing, poultry raising or market gardening, it would not require a prophet to foresee the result.

Soils, climate, men, and markets are adapted to different lines of agriculture and by far the greater part of these are adapted to general farming rather than to specialties. Of course the general farmer may also be a specialist. In fact, he should adopt something as a money producer and shape the rotation and direct his study and energy to that and stick to it.

Late Cover Crops.—L. G. B. neglected to sow anything in his corn at the last working as a cover crop and wants to know what he can do. About the only thing he can use after the corn is cut is rye. Sow two bushels to the acre and cover with a disk, set shallow, or with a cultivator. Do this as soon as possible. Except that it does not furnish nitrogen to the soil, there is no better cover crop than rye. It will take up the soluble plant food, made available during the hot summer weather, and prevent its leaching away. It will grow late in the fall and early in the spring, and makes good material to plow down if done when the rye is 8 or 10 inches high.

Clipping Alfalfa.—Almost every man about this time of the year, looks over his alfalfa field and wonders whether he should cut it again this fall or not. This is an annual query, because conditions differ with the varying seasons. If it is coming in blossom, if new sprouts are appearing at the bottom of the plant, or if it is turning yellow, clip it, but set the cutter bar rather high. If the growth is green and short and not likely to mature, it need not be cut. The better you get acquainted with the alfalfa plant and the sooner you understand its vagaries, the better you will succeed.

Spoiled Ensilage.—I recently visited two farmers, brothers whose farms joined, who have for several years failed to make silage that was fit to feed because it moulded. When thrown out it was found to be dry, flaky and mouldy. The silos are good and tight and set on concrete foundations. I found on inquiry that the corn had been put in at the proper stage of development, was well mixed and well packed by tramping. Some material had been put on top and wet as covering. Everything, so far would indicate the production of good ensilage, yet the same discouraging result followed.

The final bit of information, I believe, revealed the cause of the trouble: They carefully and thoroly wet the corn when filling the silos, or filled during rainy weather. The excessive and continued heat produced by too much water would drive out the moisture, leaving the ensilage light and dry and subject to mould. Carbonic acid gas, which

really preserves the ensilage, is produced by fermentation of the corn, and if too much moisture is present, acetic acid (vinegar) is formed, making a silage that is very acid and is undesirable. This condition is usually produced when corn is put in in a green, soft condition.

The best silage we ever made at the Homestead Farm was made from corn that had lain a few hours and wilted after being cut by the harvester. Corn that has been frosted and not cut until the leaves are white and dry, is benefited by the addition of water, because it adds weight, making it pack better. But when it is in the right and normal condition, the addition of water is an injury.

SAVING POTATO SEED.

Experiments have demonstrated that the yield of potatoes can be increased greatly by saving the seed direct from the field at digging time, yet this is very seldom practiced on the farm. It takes some extra time to harvest the

crop when this method is practiced, but the results will be profitable and pay one well for the extra time and labor required.

A potato the same as any other vegetable has a tendency to reproduce stock like that from which it was produced. The potatoes from a vine having several large tubers will have a tendency to reproduce vines that will yield about the same number and kind of tubers as the parent vine. Potatoes from a vine producing only two or three tubers will inherit the same tendency, and when replanted the resulting vines will yield a relatively small number of tubers.

In selecting the seed at digging time, the idea is to save the potatoes from the vines yielding the largest number of tubers, not the biggest tubers but the most. The size is a result of variety, richness of soil and cultivation. When a heavy yielding vine is thrown out, the potatoes from this can be placed to one side and picked up at a second picking. They should be kept by themselves in a well-ventilated cellar or pit until needed in the spring for planting.

There is a great difference of opinion as to the best size of potato to save for planting. Some growers would just as soon have the small ones while others

will not plant them at all. Those who have tried them side by side in an experimental way have little or no preference between the small and big ones. A potato tuber is not a "seed" as corn or oats, but is more in the nature of a "set" like onion sets or a slip off a plant. A small onion set will produce as large an onion as a big set. The same is true with a small potato. The number of tubers to the vine, should influence one in making a selection for planting.—L. J. H., Erie Co., Pa.

FERTILIZER FOR WHEAT.

What is the best fertilizer formula for wheat on clay loam land on the Eastern Shore of Maryland? I would like to know what fertilizing materials should be used and the quantity of each in a ton of mixed goods. I want this fertilizer for wheat stubble plowed down, and for corn ground. The ground has not had a legume grown on it in the past few years except ordinary red clover which was usually sown with

combination with phosphoric acid and nitrogen, give good returns on wheat.

We now come to the question of the amount and kinds of materials to use. Experiments and experience show that as far as the wheat crop is concerned, acid rock is about as good a source as any for the phosphoric acid required, and muriate of potash for the potassium. At any rate, there is no evidence, taken as a whole, that other sources than these are better, and since they are the cheapest it is best to use them. For the nitrogen it is usually better to use an organic form such as tankage, dried blood, etc., with nitrate of soda.

For W. H. F.'s conditions I would use a mixture containing: Acid rock, 1,400 lbs.; tankage, 300 lbs.; muriate of potash, 200 lbs., and nitrate of soda, 100 lbs.; total, 2,000 pounds.

This mixture will analyze about 2-10-5. The amount to use per acre must necessarily depend somewhat on the fertility and condition of the soil. If the land will produce 40 bushels of corn per acre, 350 pounds to the acre is not far off. If the land will not produce 40 bushels of corn, then more fertilizer should be used, and the percentage of nitrogen increased to at least 3 or 4 per cent. It is questionable, however, if it will ever pay to grow wheat on land requiring over 400 lbs. of fertilizer per acre, having 3 per cent. of nitrogen or more.

If the land will produce 60 or 75 bushels of corn in a normal season, the percentage of nitrogen may be reduced. In fact, if a crop of crimson clover has been plowed down for the corn the nitrogen may be left out entirely. Too much nitrogen is as bad or worse than not enough. Hence, the percentage of nitrogen in a fertilizer must depend upon the amount of nitrogen in the soil, and this usually depends upon the amount of clover and other legumes grown in the rotation.

With phosphoric acid and potash, it is different. While too heavy an application would not bring the most profit, it will not injure the growth of wheat.—Prof. Nicholas Schmitz, Md., Experiment Station.

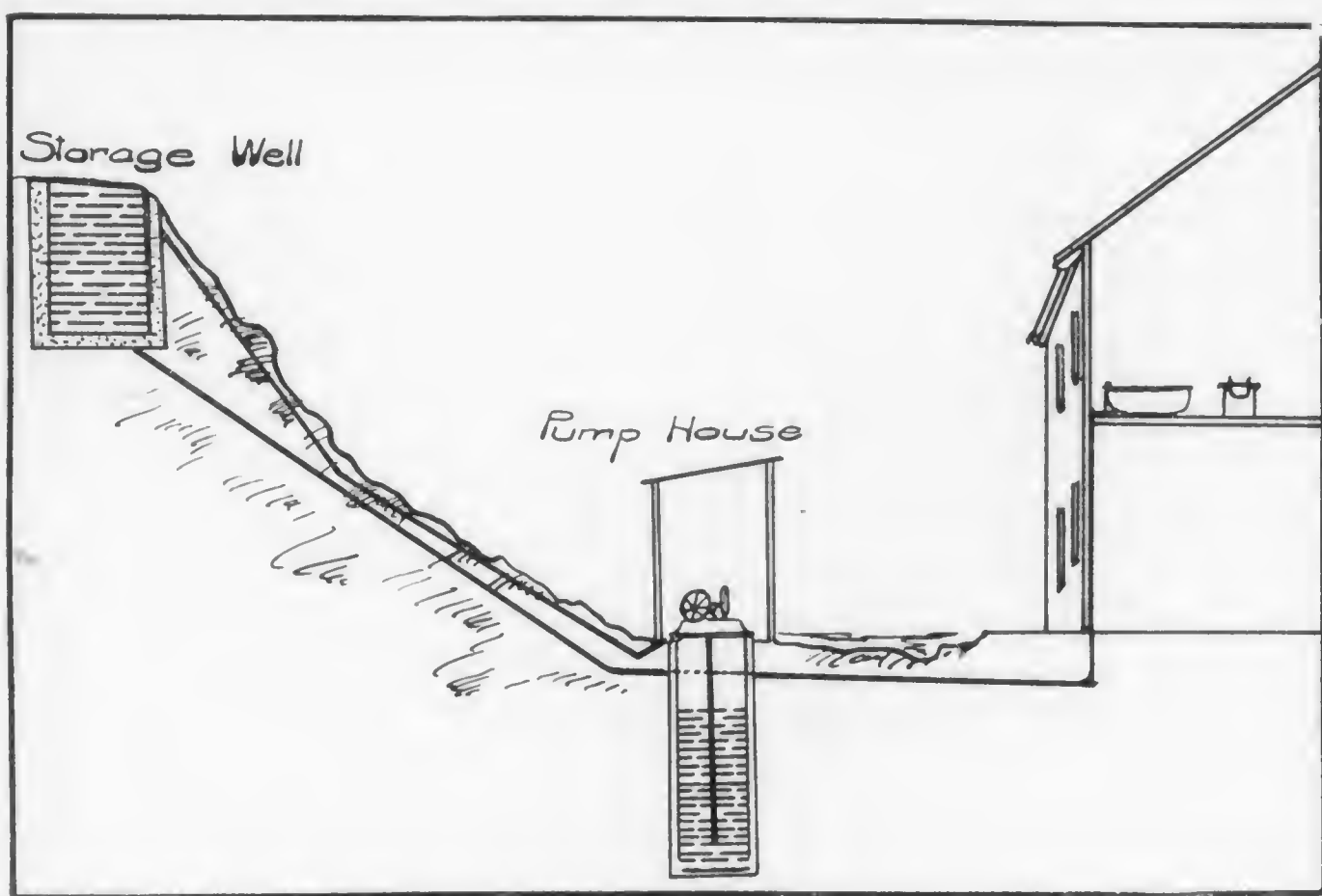
SEEDING TO GRASS ALONE.

A few years ago, two brother farmers, instead of sowing wheat, as usual, seeded to grass alone (clover and timothy), about the latter part of August. Weather conditions that year were favorable and the experiment proved a success. One of them said to me: "A crop of hay is worth more to me: a crop of wheat, and we have a better seeding to grass." Several farmers caught the idea, myself among them.

I prepared the ground carefully, going over it with the harrows nine times, and seeding the latter part of August. When spring came, most of the field was disappointing.

My neighbor began plowing soon after the oats was gathered. When the field was partly plowed, there came a settling rain; the balance of the field was plowed later. Where the ground was plowed before the rain the grass took fairly well; the rest of the field was quite indifferent. Last year a nearby farmer seeded to grass alone. When harvest came, there was not much grass.

Thus it seems that it is necessary for the freshly plowed ground to be fully united with the subsoil; united or cemented as it were, that the capillary tubes may be restored so the young plants may draw moisture from the subsoil. With the Clark system, the ground being plowed so long a time before, and with the usual rainfall, there is time and opportunity for the union with the subsoil to be complete, and the plan may answer very well.—W. S. Embree, Chester, Co., Pa.



A CONCRETE TANK OR RESERVOIR FED FROM WELL.

engine is probably the most popular pump-power of all. A 1½ horse-power engine, with pump, is within reasonable cost, and when the pump is not running the engines can be used for innumerable other purposes—sawing wood, shelling corn, grinding feed, etc. The cost of operation, while not excessive, is yet somewhat higher than any of the other sources of power; still, the convenience and adaptability of the gasoline engine has made it the general favorite.

Piping and Plumbing.—The average house will need a bath-room, holding tub, basin, and water-closet; then, in the kitchen, there should be a sink. The cost of all these may be averaged at about \$90; and the plumber will charge from \$50 to \$75 for his labor and the piping he supplies. The principal manufacturers of plumbing fixtures have entered into an agreement not to sell their goods to anyone but plumbers—even a builder or an architect can not buy anything save thru a plumber. I am glad to say, however, that this outrageous and un-American policy will probably be effectually broken up.

In selecting your plumbing fixtures, especially the tub and the closet, be extremely careful to see that they are guaranteed for two years, at least. Many manufacturers, besides their

much lower. This is called a "low-down" closet, and is much better than the old. Wooden tanks are lined with copper, but if your water supply contains any amount of mineral salt or other chemical, this copper lining will be eaten thru in a short time. Therefore, in such case, get a tank which is impervious to this action.

For outdoor use there is what is known as a "frostproof" hopper closet. This is so arranged that when the seat is occupied, a valve opens and fills the tank. As soon as the seat is released, the tank empties again. This closet, however, must not be used inside a dwelling, as it is not entirely free from foul odors.

The wash-basin or "lavatory" is either enameled cast-iron, or solid porcelain, and you can spend any figure for it you choose, from \$10 to \$100. The kitchen sink is a rather important fixture, and comes in a very great variety of prices and styles. The plain galvanized iron affair, with a wooden drain board, is the cheapest, or, we can have it lined with white enamel. Next comes the all-enameled sink and drain-board; then, the double drain-board, and so on.

Stationary wash-tubs are a very great convenience. These come in cement, soapstone, enameled iron, solid porcelain, etc. The cement tubs are

windows, etc., or the sewer-gas may blow into the rooms.

All water-pipe and smaller waste-pipe should be galvanized, and when the work is "roughed in" (that is, the pipes run, but the fixtures not set) the plumber should test the complete system under air pressure. The cost of installing such a system will depend upon the quality of materials used, the facilities for supplying water and such other considerations. Estimates of cost can be given by any supply house.

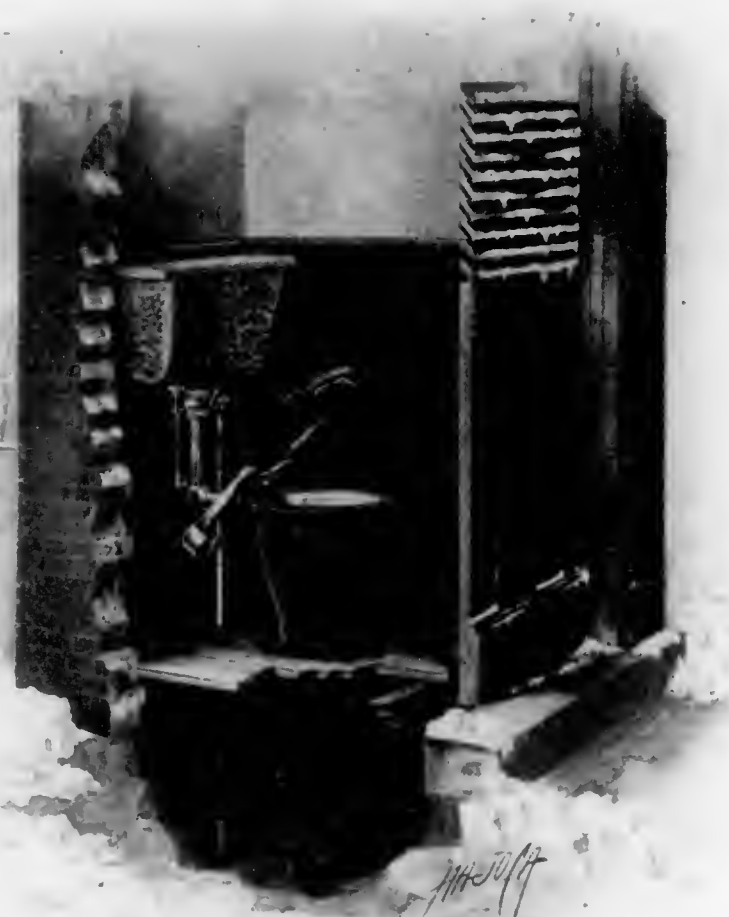
The waste from the bath-room and water-closet can be cared for in various ways. Perhaps the cheapest system is to run it into a cess-pool well, 15 or 20 feet deep, and walled up with rough brick or stone.

SAVE YOUR SEED NOW

If there is any one question to be enforced over and over again it is that there is a right and a wrong time for the selection of seed. Years ago that those seedsman J. J. H. Gregory said to the writer: "If the farmers would but save their seed as they might and should, there would be mighty little for us seed growers to do." Somehow it is easier to go to the store and get a supply, or make out an order blank, than it is to select

OUT-DOOR CLOSET.

Courtesy of Haines, Jones & Cadbury Co.



Horticulture

THE VALUE OF THE AUTOMOBILE TRUCK

While the automobile truck as a factor in farm profits is not yet universal, there is every evidence that it has come to stay and that the next few years will see a big advance in its use.

Inquiry among the different trucking, orcharding and general farming interests develops various theories regarding the usefulness of the auto truck. In the famous greenhouse and trucking district near Cleveland, Ohio, with splendid roads and easy access to the city, few, if any auto trucks are to be seen. In a conversation with one of the leading greenhouse and truck men there last summer, the writer was given to understand that this grower could not as yet see the profit in the auto truck, altho he was open to conviction on this point. He had his runabout and a touring car in addition, and nothing, apparently, which would tend to ease farm working conditions or increase profits was being overlooked. It was evident that just as soon as this grower was convinced that the auto truck was the thing for him to get, he would have no further hesitation in the matter, original cost being a minor consideration with him where indications pointed to increased profits in the long run. Be it said in justice to this grower also that he had carefully compiled figures to back up all his arguments.

In direct contrast to the opinion held by the Cleveland man we wish to cite the experience of Repp Bros., Gloucester Co., N. J., whose orchard operations are among the largest in New Jersey. Their opinion on the auto truck question is represented in the two trucks of 4) and 5 tons capacity, respectively, which they employ in their farm and marketing work.

When they decided to buy a truck, they did not figure so much upon cost as upon usefulness. Rather startling but none the less convincing is the statement of one of the brothers to the effect that the 5-ton truck paid for itself in 13 months, including gasoline, oil, chauffeur, new tires and all other maintenance and operation costs.

Mr. Repp figures that for three months a year the truck does the work of 20 horses. Where he could load 120 baskets of fruit on a three-horse wagon he can put 240 baskets on the truck. Where the wagon made one trip a day into Philadelphia, the truck makes two. The round trip for the truck is four hours, while with a team it was 12 hours. Much has been said in a general way about trucks and their utility value to the farmer, but with statistics such as these coming from actual experience even general statements in its favor cannot be refuted.

It was interesting to note the varied uses to which the two trucks owned by these men are being put. While one was hauling gravel for use in the erection of a new storage plant, another was taking farm products into the city. Lee, which is manufactured in connection with the Repp storage plant, is delivered in the auto truck to Glassboro and the surrounding country. Prompt service, whether it be for fruit, ice, fertilizer or any other product handled by the Repp Brothers is insured thru the auto truck, which for this reason is a factor in securing and holding custom. Another novel use has been found for this motor truck, which would probably not be listed in dealers' catalogues. On the day of the writer's visit the smaller truck was serving as a hoist to lift materials for

the new storage plant. An engine ordinarily used for the purpose was busy at another point but the auto truck solved the difficulty. We mention this in passing as indicating the variety of uses to which the truck may be put.

The accompanying illustrations show both of the Repp auto trucks, one already loaded and the other in process of loading.

On the Repp Farm eighteen horses have been replaced by one motor truck. During busy seasons the truck has been known to make four trips a day which on the 5-ton truck would total 20 tons hauled in a day, the mileage



LOADING PEACHES ON 4 1/2 TON TRUCK.
Used by Repp Bros., Gloucester Co., N. J.

for each round trip being thirty-two miles. Add to this the expenses avoided in the feeding and care of so many horses, the up-keep of a large number of market wagons, the keeping up of large quantities of harness, the wages necessary for a lot of drivers, and the time involved in getting to market, and it would seem that further argument in favor of the motor truck were unnecessary.—C. M. A.

HARVESTING SWEET POTATOES

The time of harvesting sweet potatoes depends almost entirely upon their growth, altho the present condition



A FIVE-TON TRUCK LOADED WITH FRUIT.
Owned by Repp Bros., Gloucester Co., N. J.

of the market, and its probable future status must be taken into consideration. On some types of soil, especially light sandy soils which are not rich in humus or nitrogenous material, the sweet potato plant will usually not set more than three or four potatoes on a hill. These make rapid growth and reach marketable size in August. Such potatoes should be dug just as soon as they reach this size; for, if left in the ground longer, they will grow to an enormous size and will be almost unsalable, in which condition they can

be sold only as "seconds." The market, too, is usually good in August so that a small crop at that time will sell for more than double or triple the quantity in October.

Where the plants are set in ground rich in organic matter, they will produce as many as a dozen potatoes each. When they set this heavy, it will take the entire season for a majority of them to mature, so that they should be allowed to grow until frost kills the vines in the fall. An ordinary frost does not injure the keeping quality of the sweet potato in the least. But they should be dug before there is a freeze

potatoes can possibly be cut by them.

The type of digger used is very similar to a two-horse plow, except that the mold-board is shorter and has several bars extending from its edge toward the rear. The digger does not turn a furrow or raise the potatoes out of the ground. It cuts off the lower roots and loosens the soil about them so that the entire hill, or plant, with the potatoes clinging to it can be lifted out of the ground. The potatoes are dug in groups of six or eight rows. Such groups, after the potatoes have been "thrown out," constitute what is known as a "row of heaps."

In throwing out the potatoes each hill is pulled out of the soil by hand. A half dozen or more hills are taken in the hands at a time. Two methods are employed in handling the potatoes at this stage, according as they are to be marketed at once, or stored in heaps. If the potatoes are to be sold at once, they are shaken from the roots into heaps about twenty feet apart. The roots are thrown in a heap to one side of the potatoes. The potatoes from six or eight rows are shaken into one row of heaps. If the potatoes are to be stored, this treatment is too rough; in which case the entire hill is laid in the heaps.

The potatoes should be allowed to lie in the heaps for an hour or two before marketing, so that the soil will be dry enough to fall from them as they are handled. Whether the potatoes have been shaken off in heaps, or allowed to remain on the hill and piled in heaps, they are sorted and marketed right in the field. Those that are intended for storage and have been allowed to remain on the hill, are picked off and carefully placed in baskets. Bruising or skinning must be avoided or they will not do for storage. Three grades are ordinarily made: "Firsts," "seconds," and "feed." The feed takes in all the potatoes the size of the average man's thumb and smaller. The potatoes affected with black rot as well as those cut in digging are also put in this grade. The seconds constitute all those larger than the thumb and smaller than those that can be spanned by the first finger and thumb. The first include all that are larger than the seconds, except those that have grown so enormously large that they would be very undesirable to offer at one serving. When they have been allowed to reach this size a fourth grade has to be made of them.

Before digging, the vines have to be cut loose from the hill. There are several methods of doing this. Some growers use curved knives attached to the end of hoe handles, and by making a swipe about the hill with this instrument, cut away the vines. Other growers use a pair of sharp discs or coulters attached to the beam of the digger. We do not like either of these methods. The first is too slow, and the

potatoes included in the grade "feed," are usually marketed right on the farm. According to a recent bulletin by Beattie of the U. S. Department of Agriculture the sweet potato has a value of 25 cents per bushel for fattening hogs. We usually allow the hog to eat what small potatoes cling to the roots after the larger ones have been shaken or picked off. The smaller ones that are basketed are used for feeding the cows and horses. We also cook several for the chickens, having a boiler holding about two bushels just for this purpose. The chickens relish them when mixed with bran and meal, and used in this way, they make considerable saving on the feed bill. A neighbor buys several sheep every fall and uses large quantities of these small potatoes to fatten them.

Most of the potatoes of the first and second grades grown in this section, that are not stored, are sold to dealers at the various shipping points. These dealers barrel them and ship to distant markets. The two and three-horse market wagons, holding from 100 to 150 baskets are used for carting them from the field to the shipping points or markets. Some growers pack their sweet potatoes in hampers, or bushel baskets, and ship independently. They do not as a rule, however, secure more than

would be possible thru selling by the

barrel to the dealers, unless they have a trade mark and sell to a special trade. The dealer has nothing else to do but study the market from every angle; accordingly he knows just where to ship in order to get the most money. Growers living within ten or twelve miles of Philadelphia cart their sweet potatoes directly into this city where they are sold in the 3 bushel basket without the necessity of repacking. Many are also sent into Philadelphia on boats by growers living near the Delaware River. Many growers do not sell their sweet potatoes during the fall while the market is glutted but hold them in storage until the price advances during the winter.—Harris T. Kille, Gloucester Co., N. J.

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CONCRETE STORAGE FOR APPLES

Apples can be kept in cold storage without the use of ice. In a specially constructed concrete storage cave, built by the horticultural department of the Kansas Agricultural College last fall, fruit was kept in such perfect condition through the winter that it was unnecessary to open the packages and regrade before selling in the spring. Practically no loss was incurred by rotting, which causes damage to stored apples only when there is a lack of ventilation and a variation of temperature. The average variation was one or two degrees a week.

The Cost Is Low.

Such a cave as this one, large enough for 1000 boxes of apples, can be built for \$250 to \$300, not including the excavating, which should not be expensive. Inside, the cave measures twenty-four feet long, twelve and a half feet wide, and seven feet high. Ventilation was provided by means of an eight-inch tile laid below ground and coming to the surface three rods from the cave. The air which passed through this ventilator was warmed in summer and cooled in winter, so that it was near the temperature of the cave when it reached the storage room.

After the fruit had been stored about a month the ventilator was partly closed, as the fruit during the remainder of the time required less rapid ventilation. During the picking season when the nights are quite cold and frosty a low temperature is obtained in the fall without the use of ice by opening the cave door late in the evening and early in the morning. A temperature of 40 to 50 degrees is low enough at the start, and little trouble is experienced in obtaining a lower temperature after the first month. As near 33 degrees as possible should be maintained during winter and spring.

Nearly any fall or winter apples will easily keep until after Christmas. Under proper care the Winesap, Tewksbury, Genet and similar varieties keep almost perfectly until May or June.

Careful of the Fruit.

The apples should be taken from the tree as soon as well colored but before they become very ripe. They should be handled with great care, as a bruised spot will start to rot within a very short time.

Any one having several barrels of apples can afford to build a small storage house. This need not be expensive, but should have insulated walls like an ice house.

It is better to place the apples in boxes or barrels than to store them in the bulk. If one apple rots in a box it will spoil only that box, while in a pile it would cause all the others to rot.

Under no conditions should apples be stored in the cellar, because it is very unsanitary and is likely to cause disease. Also it is impossible to keep an even temperature and good ventila-

tion, the most important factors in the successful storing of apples.—Kansas Industrialist.

PICKING APPLES FOR WINTER

In picking apples for winter the first precaution to observe is to be careful not to bruise the fruit in any way. A sound apple has a natural protection from the germs of decay in the skin or peel that covers the fruit. When this is broken it exposes the fruit portion to germs that cause decay and the apple rots much quicker than it otherwise would. The skin surrounding the apple has much the same effect in preserving it that the thin membrane enclosing the contents of an egg has in keeping it fresh, or the seal to a fruit jar has in preserving the canned fruit.

If two equally perfect apples were selected and a cut made in the skin of the one and the other left perfectly sound, it would be found that the one, the skin of which had been cut, would decay much faster than the sound apple, when kept under the same conditions. The reason is that in the one, decay-producing germs can get access to the inside portion, while with the other the fruit has been protected by the unbroken skin or covering.

It is necessary to exercise extreme care in picking the fruit not to bruise or cut the apples. Windfalls never keep for any length of time because the apples are bruised when they hit the ground, even though the bruises may not be noticed at first. When the apples are picked carefully and handled in the same manner the effect is practically the same.

It is an unwise plan to heap them in piles in the orchard as is often done, when they have to be handled two or three times to get them to a cellar or storage quarters. A good plan, especially with those that are to be kept the longest, is to pack them in crates or barrels right in the orchard. Then in carting back and forth over the road there is no rolling and tumbling of the apples. They can be kept in barrels or crates. When placed in bins or big piles little ventilation can be given and the tendency is to heat or rot.

The best way for picking from the tree is into an apron or bag suspended from the neck. They should be laid in one by one carefully. Such an arrangement gives one both hands for picking and it is much preferable to picking in a pail. When a pail is used there is a great temptation to empty it when full simply by dumping it, which bruises the fruit. It is best to handle them by hand unless the dumping is done very carefully so as not to let the apples fall.

In freeing the apples from the twigs one should do it by loosening the stem from the branch. If the stem is pulled out or broken from the apple, the effect is the same as a bruise or cut. It is a good plan to grade the fruit when picked. Then one can sell the inferior stock which will not keep so long, first.—Lynford J. Haynes, Erie Co., Pa.

Rejuvenating Orchards.—For those who have a home orchard which may be made to bear profitable crops, the Ohio Experiment Station, at Wooster, O., has published Bulletin 240. This station has found that stable manure, while of great value in the orchard is much slower in action than nitrate of soda or tankage. Mulching and fertilizing with chemical plant foods proved a good system of management on steep hillsides. Nitrogenous chemical fertilizers on poor soils greatly increased yields. The most modern practices of orchard rejuvenation are discussed in this bulletin.



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Poultry

FITTING BIRDS FOR THE SHOW

A large majority of farmers, will at this time be thinking of entering some of their choicest specimens in the fall and early winter fairs. For this reason I thought I would outline my way of preparing fowls for these exhibitions.

In nearly every case where the bird has received the proper care and training, it has a much better chance of winning the blues, than one picked haphazard from the pens. Select the fowls if possible, several weeks before showing. In selecting, first see that the fowl has no disqualifications, then look for its special merits. To show to advantage, the birds must be in perfect condition and must have been so handled that they are not coop shy, and are not disturbed by the inspection of visitors or the handling of the judges. With these qualifications they

In the first tub the real washing is done, and a large amount of soap should be used. The second tub is filled with clean luke-warm water, deep enough to submerge the fowl. The third tub is filled with cold water which has been blueed just as the house wife blues the water for white linen wash. In washing, thoroly soap and lather the bird to the skin, allowing the lather to remain long enough to eat out all dirt in the plumage; then remove the bird to the second tub and by rubbing gently with a large sponge remove every bit of soap from the feathers. The plumage should now be shaken in the water thoroly. Finally, plunge the bird into the third tub full of blueing water. By gentle manipulation rub all of the water out of the fowl's plumage, fan it, and roll in a dry towel for a time; then place in a warm room where it will not catch cold, to dry. If the plumage shows a creaminess, rub the feathers while still wet with a strong solution of peroxide of hydrogen. Just previous to the show, the head, wattles, ear lobes, and

Pennsylvania State College, who gave some excellent and practical poultry advice at the short course in this subject at the Edinboro Chautauqua this summer. He claimed that it takes practically as much time to feed and care for a flock of fifty birds as for three hundred, and that the returns from the small flock are not sufficient, even when they are doing exceptionally well, for a farmer to give them much attention.

In substance, Mr. Kilpatrick's address was as follows:

Lack of attention means only reasonably profitable flocks on most farms, in which connection it was shown how birds often make greater returns, dollar for dollar invested, than any other branch of live stock or crop farming. The profit they make under favorable conditions is great enough to warrant the farmer giving them more attention and also the keeping of larger flocks. To accomplish this end the increases should be gradual rather than all at once. The average farmer could readily take care of 300 birds and so plan the work that it would not take much time away from his other work; but before going into the business on a more extensive scale pure-bred birds should be purchased or the flock turned into pure-breds by the purchase of valuable male birds each year.

The advantage of a large flock is that it enables the keeper to find better markets for the eggs. Where the production is small local trade must be patronized, generally at lowest prices, while if the flock is large enough the eggs can be packed for shipping to larger cities to a trade that will pay highest prices.

The cost of a suitable house for keeping 300 birds is estimated at from \$200 to \$300; the size to be 20x60 feet and the height about 7 feet. Two large yards for pasture should be used for this house, thus making it possible to alternate the runs every year or two, which plan acts as an excellent disease preventive. While the birds are in one run the other should be plowed for corn, and this followed by wheat and seeded to clover. This rotation keeps the land clean and also productive, besides supplying one of the best and cheapest foods for poultry while the birds are on pasture.

Three sides of the house should be draught tight and little glass should be used for windows. Muslin, answering the same purpose, is cheaper and provides good ventilation. Experiments indicate that birds should be allowed out whenever they so desire regardless of weather conditions. To substantiate this statement Prof. Kilpatrick outlined an experiment conducted at Pennsylvania State College where one flock of 80 birds had been divided as equally as possible into two of forty each. One was confined to the house thruout the winter while the other could go out at will. Otherwise conditions were the same. The birds that went out at will produced 300 more eggs than the other flock and they paid a bigger profit by 30 cents per bird. The result of this test is contrary to the general idea of housing poultry.

The extent and possibilities of poultry keeping are appreciated by only a few farmers. Many are making big profits from poultry kept where all feed must be bought. The farmer has the advantage in this particular because he can produce a large part of the feed so much cheaper than it can be bought and his farm provides plenty of room, another desirable essential. Thus with a comparatively small investment and the necessary attention to detail, poultry as a side line can increase the farm profits by no small sum each year.—Lynford J. Haynes, Erie Co., Pa.

With the aid of a tooth pick, the dirt is carefully removed from beneath the scales on legs and toes. We always wash our show birds about three days before the show opens, and in the meantime keep their bedding and surroundings scrupulously clean.—P. W. Kazmeier, Orange Co., N. Y.

Most farm flocks too small to pay

The reason most farmers are indifferent to poultry keeping is because the flocks are too small to bother with, according to Prof. M. C. Kilpatrick of

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and expense and will be found profitable in very many cases.—I. W.

FEEDING FOR QUALITY

In preparing to feed to produce the best quality of meat there are many things to be taken into consideration. We often hear the remark that "poets are born not made." With first-class stock the animal is both well born and well made. In the production of first-class meat, such as will meet the demands of the best markets of today the animal must inherit a predisposition to rapid growth as well as laying on flesh or storing up fat. These characteristics are the result of a long period of years of selection, breeding and feeding. Therefore our best animals have been not only well bred but well fed.

In their native condition animals are subjected to and compelled to endure such hardships as the heat of summer, scanty fare in many instances and the rigors of winter, that their systems fortify against those severe conditions and there is a natural tendency to develop, to fortify, to endure, and exist under adverse circumstances. But under im-

mediate needs of the body.

To the ordinary observer it will be readily seen how easy a matter it is to develop an animal out of proportion. To illustrate: If excessively nervous how difficult it is to maintain that easy-going, quiet demeanor necessary to rapid growth and storing up of fat. If excessively bony and muscular on account of vigorous exercise and a large amount of lime and phosphoric acid, and the other bone-forming elements, as well as a large percentage of protein that makes the muscular sheathing of the bones, that has been consumed in the food, how difficult it is, sometimes, to change the habits of the system to laying up adipose membrane. If the vital and lymphatic systems are excessively developed by the use of carbonaceous foods, as we often find with pigs fed exclusively on corn, what a hopeless case of malformation!

If any part is neglected while the animal is young it is impossible to overcome the bad effects of the disproportionate development. If cattle or sheep are fed to develop bone and muscle alone during the growing period, and



RAPE SOWN ON BARLEY STUBBLE, PLOWED AND FITTED AFTER HARVEST.

also be sown in the corn at the last cultivation and under favorable conditions will make excellent late fall feed.

This crop has the advantage of being cheap to seed, the seed only costing a few cents per pound and requiring but a few pounds per acre. This will serve as a means of tiding the stock for which it is well adapted as a green forage over the summer season of scant pasturage, to their own benefit and to the great benefit of the fields devoted to grass in the regular crop rotation. Some small fields about the barn, which should be provided upon every farm, may be sown to this crop or planted to corn very early, or a variety of crops used in them in order that a succession of soiling crops may be provided for feeding in the yard during mid-summer.

But where a single large field is used for this or any other crop to be pastured in midsummer, it will often be found profitable to divide the field by temporarily stretching a wire fence through it so as to provide a change of pasture as occasion may require. In England the hurdle system is used almost entirely, and undoubtedly gives better results, but it involves so much labor that it will not be likely to gain favor among the farmers of this country under present conditions. The temporary system of dividing fields by means of wire fencing is, however, entirely practical, involves little labor

proved conditions there is a general devotion, or dropping off and leaving behind some of the characteristics of hardness and there is an utter inability to endure hardships such as they were subjected to under the stern hand of Nature.

In other words, the vital organs have been weakened by domestication, and instead of being simply the product of Nature alone, they are simply the product of the guiding intelligence of man and Nature combined. The various systems that complete them have been greatly changed and, like clay in the hands of the potter, they have been developed and shaped in accordance with the tastes of the breeder, or the class of breeders that have formed the breed of which each animal is one.

In order to get a better understanding of what we wish to convey we will, as a matter of convenience, divide the animal into four distinct divisions, or systems, and will try to show that these systems should be harmoniously developed to produce the best results. 1st. There is the nervous system or controlling power, that operates all the organs of the body. 2nd. The bony and muscular system that is the carrying or motive power. 3. The vital organs that are the machinery which consumes, works or digests, assimilates and makes use of the food consumed. 4th. The lymphatic system that lays by in available form all the excess of nutri-

then food given to produce fat after maturity, the carcass will be but a rim overlaid with fat with no intermingling of fat and lean. The mixing of the fat and lean is only done perfectly when all the systems are growing at the same time.

Nature's first food, the milk of the mother, is so perfect that all parts, the bones, muscles and all the organs of the body, are growing simultaneously; even the joints are being lubricated and all the animal machinery is working harmoniously. If the feeder's art can be so cultivated or acquired, that the same perfect form and harmony of development can be continued until maturity is reached, there need be but little carping on the part of consumers, or asking for anything better.

The demands of the markets at the present time are furnishing instructions along these lines. Instead of the slow-growing, old animals that commanded a high price back in the sixties, there is a call for rapid-growing and early-maturing animals that reach the popular weights at an early age. These demands can be entered to with both pleasure and profit, as the meat can be produced cheaper in the earlier period of an animal's life, while the energies of its nature are bent toward growth during the growing period, than when nearing the period of maturity, or after the mature period has been reached.—W. C. Chester Co., Pa.

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THE ROAD BOND AMENDMENT.

Pennsylvania has 57,387 miles of public highways. At a conservative estimate of \$15,000 per mile for such roads as are contemplated under the bonding system, the proposed \$50,000,000 bond issue would build about 3,500 miles, or about 4 per cent of the roadways of the State. As taxpayers as well as road users, the farmers are more interested in the remaining 96 per cent. of the roads. It is of far greater importance that the 96 per cent. of our roads be maintained in good repair and kept in condition for the transportation of farm crops and for farm travel than that the 4 per cent. be maintained on the extravagant plan contemplated. The vital question in the bond amendment issue is whether the State shall assume the debt of \$50,000,000 for the building of 3,500 miles of detached speedways and neglect the 53,887 miles of country roads, or adopt a progressive plan of improvement of all of our roads. Read the article on page 13 of this issue. This article is to be followed by others, discussing the merits of different methods of management of the common earth roads. This series of articles will merit careful reading. Read also the conclusions of the new Highway's Advisory Board of New York State, given on this page. This is the best evidence of the operation of the bonding system that can be secured. New York roads, road use, road-making materials, and, we may safely assume, political methods, are as comparable with the same factors in Pennsylvania as can be found. Study the results in New York carefully, and then decide whether you are ready to vote for a system promising only "a disgraceful botch," a broken web of highways bristling with dead ends," at a cost of \$15,000 per mile.

This is the time of year when Season's all crop reporting agencies are busy making estimates on the season's production. Present conditions seem to indicate that practically all crops will be below normal this year. Various reasons are assigned, the principal ones being the extremely hot weather thru July and August in the Middle West and protracted droughts in many sections.

Pennsylvania Farmer

September 20, 1913.

Early frosts are cutting crops still further. According to the September report of the United States Department of Agriculture, the composite condition of all crops on September 1 was 10.1 per cent. below the average conditions on that date of recent years. Compare with a year ago, the average condition shows a decline of about 12.2 per cent.; and prospects are tending toward a still further decline, whereas last year there was a steady improvement to the close of the season. The West Central States, including Minnesota, Missouri, the Dakotas, Kansas and Nebraska, have suffered most, the average condition for the group showing 8.5 per cent. of an average, a decline of 15.5 per cent. from the average of the past ten years. The South Central States show a condition of 8.7 per cent. of the average and the North Central States, 90.8. The South Atlantic States, from Delaware southward, are nearly normal, showing 99 per cent. of an average, while the North Atlantic States rank next with 93.8 per cent. The average condition on September 1 in Pennsylvania indicated a prospect of about 96.2 per cent. of a 10-year average; New Jersey, 96.4 per cent.; New York, 90.7 per cent.; Delaware, 92 per cent., and Maryland, 90.4 per cent. The following table shows the reported condition of the principal crops on September 1 of this year, together with the average farm price on September 1 of 1912 and 1913:

CROP.	1913.	1912.
Condition.	Bushel.	Bushel.
Corn	80.5	\$0.754
Oats	93.3	.393
Buckwheat	86.7	.700
Potatoes	88.0	.753
Apples	87.7	.75
Beans	91.9	2.11
Cabbages	90.8	2.15
Onions	92.5	1.05
Swt. Potatoes	94.4	.90
Tomatoes	93.8	.96

The advocates of the New York's \$50,000,000 road bond Road Scheme amendment in this State have been pointing to New York as an example of what may be accomplished under the bonding system. We will likely hear very little from them on this subject in the future, as New York has but recently awakened to the real conditions in its road-building scheme. There is all the more reason why we should study the experience of New York carefully. The plan tried there is identical with the one that is being proposed here, and there is every reason to suppose that the results in this State would be the same. New York has spent one appropriation of \$50,000,000, and the politicians were successful in having a second bond issue of similar amount ratified a year ago. Below is a summary of the conclusions arrived at by the new advisory board which has just completed an investigation of the work accomplished. Read it carefully and judge of the adaptability of the same scheme to Pennsylvania's conditions:

The abandonment of the present highway scheme in New York State, after all its cost in money honestly spent and in about as much wasted and stolen, is the proposition that will soon be made by the Commissioner of Highway's Advisory Board in its forthcoming report to the Commissioner. This will involve the mapping out of an entirely new system of highways and the resubmission of the \$50,000,000 referendum passed at the last general election. Commissioner Carlisle considers the present system a farce, and the provisions of the law under which the \$50,000,000 must be expended he brands as "iniquitous." The completion of the system under the present plans would, he says, result only in "a disgraceful botch, a broken web of highways bristling with dead ends."

ways bristling with dead ends." There is already a deficit of \$7,000,000 on State roads for which the State pays the entire cost of construction, while several counties in which all the State roads have been constructed receive among them a total of \$4,000,000, which amount cannot, under the law, be transferred to any other work or to the same work in other counties, but must go back into the State Treasury.

Commissioner Carlisle contends that if the department goes ahead and honestly expends the proceeds from the second bond issue of \$50,000,000 they will still require as much more to complete the present authorized road system and then we would have only "a disgraceful botch." In order to connect up the fragments he believes the total highway debt of the State would be \$250,000,000.

Then another thing is the maintenance. The Commissioner quotes Massachusetts as having developed the maintenance problem further than any other State, and in Massachusetts it costs about \$300 a mile for maintenance per year. In New York it has cost many times that, but using the Massachusetts figures as a basis, it would cost New York for maintenance only of its over 11,000 miles of road the great sum of \$3,300,000 a year.

If a new system is mapped out, this 11,000 miles of State roads will be cut down to about 6,000, which would be done by incorporating all the trunk lines now built or under construction to form a network of roads to cover the entire State. The county roads as such would be abandoned altogether and taken over by the State. Those not essential to the actual development of the big trunk line system would be abandoned by the State and left to the counties to build without State aid. A portion of the highways now designated as State highways would also be abandoned.

The rottenness of the road system as it was developed under the Tammany management becomes more and more apparent every day. The question is, how much longer will the people stand for such extravagance and waste?

Do not miss the first installment of our new serial story "Winston of the Prairie" is just the sort of farmer and all-around man to make many close friends among our readers in the next few weeks. He is, first of all, a farmer; and his financial problems are such as every pioneer farmer has had to face. In addition to these he is thrown into a complexity of social and moral obligations that is so unusual and gripping that you will not want to miss a word of his story. The narrative is clean, wholesome and intensely interesting. It combines thrilling adventure in the great Northwest at a time when law and government were in the making, with pleasing romance that interests and entertains right up to the final chapter. Do not miss the opening chapters.

STATE CAPITAL NEWS.

Gathering Farm Statistics.—Collection of statistics has been inaugurated by the new State Bureau of Agricultural Statistics in the Department of Agriculture and arrangements have been made with the commissioners of all but three western counties to furnish the bureau with official lists of all farms, farmers, tenants, etc. It will be the first complete census of farmers ever made in Pennsylvania and it will be corrected annually. Later on, the data regarding area, extent of cultivated and wooded land, crops, yield and water supply, together with livestock statistics, will be collated. The first complete data is expected to be available during the winter and will be useful in arranging the educational work of the department.

Lancaster to the Front.—The official return of Lancaster County was among the very first to be sent to the new sta-

tistical bureau. It shows over 10,000 farms. This will be the banner county of the State, say State officials.

Telephone Schedule Action.—The Public Service Commission has announced that the final hearing of objections to the schedule of telephone charges proposed for the State by the old State Railroad Commission will be held during the week of September 22. The original announcement was for September 23, but a day or two will be set aside in that week for the hearing. The commission will receive briefs thereafter and dispose of the matter before January 1. The objections presented thus far have been on behalf of the independent lines, which have set forth that they will go out of business under the proposed schedule, while the tying down to a scale of charges based on city service of so-called "farmer lines" is declared by representatives of rural telephone companies to mean the end of their business. The objection on behalf of the rural companies, as voiced at the first hearing, was that the country lines were maintained with difficulty and were more of an accommodation than source of revenue to the people interested. It was also represented that the imposition of a fixed scale of charges would take away one of the greatest conveniences of country life and a social feature because of requirement of arbitrary rates.

Inspection Work Begins.—Active work in the inspection of fertilizers and feeding stuffs for cattle is being pushed by agents of the Department of Agriculture and the preliminary reports show comparatively few violations, the standard being better than in previous years. The number of representatives brought by the State has steadily declined in the last half dozen years and it is the belief that this winter will show a good state of affairs. State and Federal authorities have been co-operating in carrying on the work.

State Aid Road Work.—As the appropriations for the construction of State main highways is all apportioned the State Highway Department is falling back on State aid road work and contractors will be let this week for 12 sections, with a possibility that half a dozen more will be entered into in the next month. The result of the Schuylkill County indictment against the highway commissioner was that an offer was made to reconstruct the highway allegedly to have been left in poor condition under the State-aid plan, provided the township and county agreed to pay their half.

Volunteers in Bee Inspection.—The State Division of Zoology has been able to command the services of a number of trained apiarists for inspection work this year merely upon payment of their expenses. An effort was made to get thru an appropriation of \$3,000 for bee inspection work for two years, but this was cut to \$1,000, and the regular inspection had to be spread over two years. In a number of sections of the State where complaints of the presence of foul brood were made, zoologists were able to call upon some bee keepers to make inspections. They did so without remuneration and have conferred a benefit. This emergency appropriation would enable the State to clean up the apiaries of the State in a few years.

Cold Storage Suit Off.—Apparently the people who are back of the cold storage law are not very anxious to bring the matter to the point, as for the second time, the trial has been postponed. The law is being amended, but it is shown to have its faults and it is probable that the next legislature will be asked to pass corrective legislation and stiffen up places where it is shown to be weak.

May Test Indemnity Bills.—It is possible that if payment is not made in a few weeks of bills for indemnity given owners of cattle killed by agents of the State Livestock Sanitary Board a court action may begin. Rumors of such action have been heard here.

Claiming Bounties.—Altho the hunters' license act which is to provide the money for payment of bounties on poisonous animals, has not been in force very long, inquiries are already being made at the offices of State officials as to what payments for seals can be collected. Whether there will be some high selling over the method of making it a sale or not remains to be seen.

Urging Agricultural Education.—Officers of the State Department of Public Instruction are urging the school authorities in rural districts to establish

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lish courses in agricultural education in order to secure the State aid. Under the rules made, 50 per cent. of the course must be with a specific training for a vocation to obtain the State aid.—Hamilton, Harrisburg, Pa., Sept. 15.

NEW JERSEY FARM NOTES.

Freeholders Aid Farm Bureau.—The finance committee of the Mercer County Board of Freeholders has decided to recommend that \$600 be appropriated toward the maintenance of the farm bureau which was established last year. This new organization is doing good work and is daily growing in favor with the farmers.

Crops After Potatoes.—Farmers are now planning cover crops to sow after potatoes. According to present knowledge it is best to keep potato soil quite acid. On such soil the leguminous plants do not grow as well as on sweet land. It is therefore recommended that a mixture be sown of one bushel of wheat and either 10 pounds of crimson clover or 15 pounds of winter vetch to the acre. If sown some-what late, it is better to sow vetch alone—two bushels to the acre.

To Boost Market.—The Chamber of Commerce of Trenton is furthering the movement for the establishment of a cooperative city market there. It is thought that thru such an institution the cost of green vegetables would be greatly reduced because of the saving of the middleman's profit. The housewife could also secure fresh vegetables instead of those that have passed thru many hands and been junketed around for several days.

Interesting Tractor Use.—Arthur Brisbane, a famous New York newspaper man, with a tract of land in the so-called "Pine Barrens," is operating a "caterpillar" tractor in clearing land. It is a huge gas engine able to travel and work on land so soft as to make the use of horses impossible. It runs on a track of its own that moves as the engine moves. It can pull 10 plows, turning 10 furrows, 14 inches deep. This pine-barren land is excellent for raising asparagus, peaches, dew-berries and early vegetables.

Milk, Etc.—The State Board of Health in its report for August, states that high temperatures, producing rapid bacterial changes in unclean milk, caused the usual summer increase in infant mortality. The sale of milk was prohibited from five dairies because of unsanitary conditions. These dairies supplied milk to Trenton, Perth Amboy, Passaic, Clifton and Bernardsville. Thirteen other dairymen were warned to improve conditions.

Cattle and Texas Fever.—On the order of the State Board of Health, 36 head of cattle shipped from Florida to a New Jersey man, were killed the other day. This was no more than a routine incident in the enforcing of the law for the protection of cattle, but is served as an illustration of a trend of present times. These cattle were destroyed simply because they had been exposed to Texas fever. Not one of the cattle had become affected, it is said, but for the protection of cattle in New Jersey every one of them was killed.

A Peat Experiment.—Charles A. Geran is shipping a carload of peat from his farm near Freehold to a manufacturer in Pennsylvania. It is believed that the peat is valuable for fertilizing purposes after being chemically treated and the result of this experiment is being watched with much interest. There are several strata of peat in various parts of this state and should it have any value as a fertilizer, it would materially lessen our annual fixed charges for such materials.

Prof. Davis to Leave.—Prof. Gary C. Davis has resigned the chair of Agronomy in the State College, which he has held for the last five years. He will become professor of Agriculture and head of the Knap School of Country Life at the George Peabody College for Teachers, Nashville, Tenn. Before coming to the State College he was dean of the School of Agriculture of St. Lawrence University, at Canton, N. Y. Prof. Davis practically organized the summer school at Rutgers College and was its first principal. His new field will be much larger.

New Milk Record.—A test of milk from cows on the Straus farm, Monmouth County, was recently made in the Lohrle Laboratories in New York City, and it showed some remarkable results. It showed that to each quart of milk tested there were only 200 bacteria. To keep the bacterial count down to this figure establishes a new

record. The Strauses have established a new system of taking care of their cattle and of keeping the milk pure. Each cow before milking has her udder washed with disinfectants. Two towels are used for each cow, one for washing and the other for drying. Every towel so used is washed and sterilized each day. The stable and dairy house are constructed almost entirely of concrete, and are washed and scrubbed every day.—D. T. H.

NEW YORK CONTAINER LAW

The new container law went into effect in New York State on June 1. In general, all meat, meat products and butter are sold by weight. All other commodities not in containers shall also be sold by weight, measure or count, which must be marked on a label or tag attached thereto. Vegetables may be sold by the head or bunch. Commodities which appear as a unit in the state of nature may be sold by either weight, measure or count. Thus, eggs may be sold by the dozen or by the count. As to egg carriers, if they contain more than six eggs they must be marked with the number of eggs contained. Bread is to be sold by weight, and this shall be marked on the bread or the wrapper in a type specified by the law.

Containers of flour must show the net weight of the flour contained. Butter in prints shall be marked in terms of avoirdupois pounds. The law specifies the sizes of type that shall be used. Cheese shall also bear the weight mark. Canned goods must be marked. All who are interested in this law, as well as those who have farm produce to sell, should get a copy of the law by writing to the state sealer of weights and measures at Albany. Its provisions are numerous and its details many. Dr. Reichmann says of it: "The dealer is no longer able to evade the law by indefiniteness. He can not mark 'Butter, 32 cents,' but must specify 'Pound of butter, 32 cents,' and if it is not a pound he is violating the law, and this holds good thru the list of various commodities.

COUNTY NOTES.

Putnam Co., N. Y. (S. E.), Sept. 10.—Frequent rains; thunder showers; nights and mornings cool; days warm. Cows, \$15.00-\$18.00; butter, 35c. lb.; eggs, 40c. doz.; peaches, \$1 basket. Buckwheat crop looks promising. Farmers busy plowing for rye. Cutting corn; filling silos. Pomona Grange meets at Carmel, N. Y., on September 16.—William Seim.

Wayne Co., Pa. (N. C.), Sept. 7.—Rainy and foggy; stock in good condition and being prepared for fair. Lots of crops being harvested. Corn looking well; prices good; all kinds of meat high; all farm work keeping pace with the season; preparations being made to fill silos.—E. W. Carl.

Lancaster Co., Pa. (S. E.), Sept. 10.—Cool at present; weather fair; last week was hot and sultry; September 7th, a thunder storm visited Lancaster and vicinity, accompanied by much hail and rain; city was flooded and much damage done; livestock is in good condition; pastures are holding well in most parts of the county; potatoes are a fair crop; selling at 55c/60c, per bu.; not all raised yet; corn and tobacco are good in some localities, but poor in others, owing to a lack of rainfall; tobacco is being cut; some corn is cut; corn, 85c; wheat, 85c; oats, 45c; hay, \$15.00-\$16.00; farmers are busy putting tobacco and taking out potatoes; potatoes are being marketed out of the patch; most of the wheat ground is plowed; seedling will start about the last week of the month.—J. Henry Haverstick.

Armstrong Co., Pa. (S. W.), Sept. 8.—Drought, followed by a good rain; alves 9 1/2 to 10, lb.; vetch turning out well; corn damaged by drought; hay, \$14.00-\$15 per ton; cabbage, 2c.; whole sale; potatoes \$1 per bu.; work is well advanced; conditions in general are good in this section.—Arthur R. Alls house.

York Co., Pa. (S. E.), Sept. 9.—Hot and dry until a few days ago, when we had a very heavy thunder storm; cattle very scarce and high; feeders selling from \$6.50-\$8.40 per cwt.; veal, 12c. per lb.; wheat crop a little short, selling at 91c. per bu.; corn, 85c. per bu.; potatoes fair at 50c. per bu.; butter, 33c/38c. per lb.; eggs, 28c. per doz.; farmers are busy harvesting tobacco, filling their

silos and getting their seedling ground in good condition.—Clarence D. Emig. Bedford Co., Pa. (S. C.), Sept. 9.—Very dry until the 6th; good rain on that date; livestock not in much demand and prices not very high; wheat crop light, due to freeze, price, 95c. per bu.; corn a fair crop, price, 90c. per bu.; apples, good grades selling at 90c/\$1.00 per bu. Very little seedling done yet, on account of dry condition of the soil.—N. F. Richards.

Lawrence Co., Pa. (W.), Sept. 8.—Cool and dry; cattle scarce and high; not much demand for horses, but good heavy horses are high; threshing just begun; chickens (old), 14c. lb., young, 80c. pair; apples, \$1 per bu.; butter, 31c.; hay all up; some oats hauled; plowing for wheat started; late potatoes need rain; help scarce.—Charles L. Dice.

Junata Co., Pa. (C.), Aug. 26.—Cool and very dry; local showers; butting cattle scarce and high; cows not milking very well owing to dry short pastures; lambs and sheep in demand; horses slow sale; beef cattle, 50c/60c; lambs, 60c.; sheep, 34c.; hogs, 80c/90c; cows \$50.00/70; wheat, 85c.; corn, 80c.; oats, 45c.; apples, 75c. per bu. Threshing and plowing; much corn too hard to plow until rain comes; yield of wheat and oats below average; corn needs rain very badly.—D. B. Esh.

Montour Co., Pa. (C.), Aug. 27.—No rains; clear; temperature varying; live stock in good condition and prices high at any time; wheat, 85c.; oats, 35c.; corn, 80c.; potatoes, 75c.; butter, 30c.; eggs, 25c.; tomatoes, 70c. Work well advanced; lime hauling and work pertaining to preparation of fields for seedling being main occupation.—Benjamin L. Diehl.

Potter Co., Pa. (N. C.), Aug. 27.—Pleasant weather. The pastures are getting thin for lack of rain; dairy and beef cattle are scarce; veal, 13c.; spring chickens, 16c. live weight; potatoes, 80c. There are no apples for sale. Farmers are busy hauling in oats. Some buckwheat has been cut; not much threshing done.—Louis J. Zundel.

Chester Co., Pa. (S. E.), Aug. 30.—Nice weather for August; cool; showers at intervals; some severe winds; livestock high; pigs quite high; corn is ripening, but is not caring so well as expected; corn worth over 80c. per bu.; wheat crop yielding from 10 to 25c. bu. per acre and not holding out in weight. Farm work is well up. Some alfalfa is being planted and oats ground is being plowed. Some silos are being filled. Eggs, 30c. per doz.—Hayes C. Taylor.

Warren Co., N. J. (N. W.), Sept. 1.—Hot, with occasional showers; potatoes are green and will be fair crop; corn indicates a good crop; plowing for winter grain being done.—V. R. Loller.

Crawford Co., Pa. (S. W.), Sept. 1.—Weather fine with light showers; corn looking fair; needs some good weather; out well; wheat sown yet; veals, 10c.; hogs, 81c.; eggs, 24c.; butter, 30c.; pasture short; milk production falling off; some silos being built; pears plentiful; apples scarce.—J. F. Seavy.

Greene Co., Pa. (S. W.), Sept. 2.—Warm and dry; livestock scarce and very little being sold; wheat is not making a large yield, as was expected; will reduce the corn at least 20 per cent.; no wheat has been sown owing to the dry weather; most of the plowing is done.—C. E. Adleman.

Venango Co., Pa. (N. W.), Sept. 3.—Very dry during month of August; live stock in good condition, but scarce; crops losing, owing to lack of rain; potatoes almost a failure; corn, poor; buckwheat, poor; butter, 30c.; eggs, 30c.; potatoes, \$1 per bu.; lambs, 70c. live weight; chickens, live, old, 14c. young, 16c. per lb.; very little farm work being done owing to drought; general conditions not as good as they should be at this time of year.—W. J. Pringle.

Warren Co., Pa. (N. W.), Sept. 2.—Very dry and warm; livestock looking well; good cows cannot be bought; all stock high in price; hay a good crop; oats better than usual; corn and potatoes suffering from drought; some farmers plowing for wheat.—Clay P. Firth.

Lycoming Co., Pa. (N. C.), Aug. 30.—Dry and very hot; threshing machines very busy now; grain turning out well with more straw than usual; potatoes only a fair crop, no extra high yields; too dry for buckwheat, crop will run way below the average; plowing for wheat nearly all done; those who have not plowed are waiting for rain; pastures getting short and milk in good demand.—Clay E. Hall.

Frederick Co., Md. (N. C.), Sept. 4.—Warm, sultry and dry; no rain; live stock in demand; corn, about two-thirds crop; fodder not tall; some little being cut; grass very short; stock in fair condition; squirrels and rabbits plentiful; most of the silos are filled; a great many in this vicinity take double amount of acres of corn to fill them this year.—H. C. Fawley.

Luzerne Co., Pa. (E. C.), Sept. 5.—Very dry and hot; livestock scarce; corn and potatoes not standing the drought very well, and will be a rather short crop; wheat 90c.; rye, 70c.; oats, 50c.; potatoes, 70c.; corn, 85c.; timothy hay, \$16; farm work advancing slowly on account of drought.—N. C. Brown.

GET THE CATALOG.

Half information is often an unsatisfactory fact as no information, and many advertisements cannot do justice to the article advertised because of limited space.

If you are interested in anything advertised in the Pennsylvania Farmer, write the advertiser for his catalog or book of information. In writing, however, be sure to use the correct address. It is well worth your effort, for most of these books are of considerable interest and information, as well as advertising the manufacturer's business. Get the catalog and then decide.

Valuable Silo Book.—One of the best and most valuable discussions on the silo question that we have ever seen is given in a little booklet on the cypress "Even Temperature" Silo. It takes up just the questions which the prospective silo builder wants to know about, and gives facts and figures on different types, styles and makes of silos, which are of value to the builder. Among other things it discusses investment value of the silo, cost of building and cost of silage, shape of silos and advantages, spoiled silage and how to avoid, size and capacity of silos, specifications for building. Under the latter head are given drawings and specifications to assist in the building of any size and style of silo. The booklet is free upon request. Write Southern Cypress Mfg. Association, 111 Hibernia Bank Building, New Orleans, La. Just write a postal card, asking for Silo Book No. 37.

Dairy Supplies.—"Everything for the Dairy" is listed and fully described in the new catalog "E" just issued by the Dairymen's Supply Co. This company handles everything that is used in dairy work, from a teat plug to milking machines and from milk stools to stalls and stanchions. The new 200-page catalog gives full descriptions, details and prices. This is one of the best known dairy supply houses in the country and has built up a large business on a record for reliability and square dealing. If you are in need of any kind of dairy equipment, write Dairymen's Supply Co., Landsdowne, Pa., and ask for catalog "E."

STATEMENT OF OWNERSHIP AND MANAGEMENT OF THE PENNSYLVANIA FARMER, PUBLISHED AT PHILADELPHIA, PA., REQUIRED BY THE ACT OF AUGUST 24, 1912.

Editor—Arthur J. Anderson. Philadelphia, Pa.
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Owners (holding 1 per cent. or more of total amount of stock).
M. J. Lawrence, Washington, D. C.
M. L. Lawrence, Cleveland, O.
P. T. Lawrence, New York, N. Y.
Nellie Lawrence Parsons, Cleveland, O.
Citizens Sav. & T. Co., Trustee, Cleveland, O.
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E. D. Pease, Cleveland, O.
R. M. McConville, Cleveland, O.
E. H. Houghton, Detroit, Mich.
G. J. Munsell, Detroit, Mich.
Known bondholders, mortgagees and other security holders—none.
(Signed) NEFF LAING, Manager.
Sworn to and subscribed before me this 11th day of September, 1913.
(Seal) CHAS. HARVIN, Jr., Notary Public.
(My commission expires February 5, 1915.)

No Loose Money Collections From Boxes.—The Postoffice Department has issued an order warning rural patrons against leaving money in the boxes. It says: "The attention of postmasters at rural delivery offices and of rural carriers is again directed to the fact that rural carriers are not required to collect loose coins from rural mail boxes. Patrons must enclose in an envelope, wrap them securely in paper, or deposit them in a coin holding receptacle so they can be easily and quickly taken from boxes, and carriers will be required to lift such coins, and when accompanied by mail for dispatch, attach the requisite stamps."

Grange

McSPARRAN'S GRANGE NOTES

Method versus Legislation



In doing picnic work this summer I found myself in an apparent clash with the farm bureau men, and, in fact, with the teaching force of the several institutions calculated to instruct the farmer. I therefore take this method of having a little heart-to-heart talk with all our people, and especially with those whose part is to do the work of instruction whether in college, institute, farm bureau or farm paper.

In laying the ground work for what I consider is the most essential argument that needs to be made to the farmer today, namely, that he is being robbed by the character of legislation his carelessness has allowed, I find it necessary to call attention to the fact that the farmer has not received any help along this line as a rule from our colleges, institutes and farm papers. Of course, there are exceptions in each line, but as a rule the statement stands.

The burden of the message to the farmer from our colleges, institutes, departments of agriculture, farm papers and all other guiding forces, is that his prosperity consists in making two blades of grass grow where one grew before. I do not feel any malice toward any of these guiding forces. I do not wish to hamper or belittle their work; but I cannot help feeling that they have done the farmer a decided injury by "tithing mint and rue, and anise and cummin, and neglecting the weightier matters of law and of judgment."

By giving undue emphasis to a minor matter, the attention of the people has been taken away from the real essential matters. But is it true that legislative matters are so much more important than questions of method? Absolutely so; for the reason that questions of method have the effect of placing one farmer in competition with another. The scientific farmer, other things being equal, will succeed much better than the one who refuses to study his business or profit by the research of others. But the vital point is that from both the scientific and un-

scientific farmer, the increment of his toil is being taken by special privilege, and the root meaning of privilege is "private law." These laws of taxation, so unjust and unequal; these laws of transportation that deplete the weak for the benefit of the strong; these corporation laws that grant such valuable privileges, rights and franchises and secure so little for the convenience and service of the people; these license laws that for a paltry pittance legalize the corruption of manhood and womanhood. All these and many more are taking each their slice of the increment of the farmers' toil.

It does not pay the farmer to materially increase his yield. If he does, he will take less money for his crop than if the yield was short. H. L. Loucks, in the September Grange News, has so forcibly compiled the figures as to the effect of bumper crops on the value per acre that I quote his findings on a few of the crops.

"Wheat average yield in United States in 1911, 12.5 bushels. In 1912, 15.9 bushels. An increase of 3.4 bushels or 27 percent. World's increase 6.4 percent. Average farm price June 1st, 1912 (end of calendar year), \$1.03. December 1st, 1912, 76 cents. A de-

crease in price of 26.8 cents per bushel. Average gross receipts for 100 acres. 1911, \$1,274. For 1912, \$1,144, or a decrease of \$130. This does not take into consideration the increased cost of harvesting, threshing and marketing the larger crop, which would materially increase the difference.

"Corn:—Average per acre 1911, 23.0 bushels; 1912, 29.2 bushels. Increase 5.3 bushels or 22 percent. World's increase 21.8 percent. Farm value June 1st, 1912, 82.5 cents per bushel, December 1st, 1912, 48.7 cents, a decrease of 33.8 cents per bushel. Gross receipts for 100 acres for 1911, \$1,971.17; for 1912, \$1,422.40, a decrease of \$548.87 for the larger crop. Or \$5.48 per acre.

"Barley:—Average per acre for 1911, 21 bushels; for 1912, 29.7 bushels, an increase of 8.7 bushels or 41 percent. World's increase estimated at 5.7 percent. Farm value June 1st, 1912, \$0.91, December 1st, 1912, 50.5 cents per bushel; decrease in price of 40.6 cents per bushel. Gross receipts for 100 acres 1911, \$1,913.10; for 1912, \$1,499.85 or \$413.25 less for the larger crop.

"Oats:—Average per acre 1911, 24.4 bushels; for 1912, 37.4, increase 13 bushels or 53 percent. Farm value June 1st, 1912, 55.3 cents; December 1st, 31.9 cents, a decrease in price of 23.4 cents per bushel. Gross receipts for 100 acres 1911, \$1,340.32; for 1912, \$1,193.06, or \$156.26 less, for more than double the crop.

"Flax:—Average per acre, 1911, 7 bushels; for 1912, 9.8 bushels, an increase of 2.8 bushels per acre, or 40 percent. Average farm value for 1911, \$2.17. January 1st, 1912, \$1.08, a decrease of \$1.09 per bushel. Gross receipts for 100 acres for 1911, \$3,519; for 1912, \$1,058, a decrease of \$461, or \$4.61 per acre.

"Potatoes:—Average per acre 1911, 80.9 bushels; for 1912, 113.4 bushels, an increase of 32.5 bushels or 40 percent. Farm value June 1st, 1912, \$1.197; December 1st, 1912, 50.5 cents. A decrease of 69.2 cents per bushel. Gross receipts per acre 1911, \$96.83; for 1912, \$57.26, or \$39.57 per acre less."

Bro. Loucks should have compared June 1st with June 1st, but it does not break the force of his argument, because, while it would not make as great a difference as he finds, yet it does make a difference in favor of the light crop. For instance, the bumper crop of potatoes in 1910 showing 93.8 bushels per acre, at 57.4 cents per bushel, on December 1 equals \$53.84 per acre. In 1911, 80.9 bushels per acre, at 79.9 cents per bushel on December 1 equals \$64.63, or a difference of almost \$10 per acre in favor of the short crop.

So it can be safely asserted that the use of more intensive methods of farming, if as generally applied as they are generally taught, would result in swamping the level of products to the danger point. Why is it, then, that so few of these instructive agencies are willing to go after the real difficulty in the situation?

A prominent professor in a large agricultural college said to me: "What does the tariff have to do with the farmer, anyhow?" Different farm bureau men have told me: "I don't understand these legislative questions." An editor of a widely circulated agricultural paper told me a year or more ago that he did not think that there was such a thing as a beef trust.

These men should know about these things, and they should be teaching them. It is an outrage that our farmers' institutes are practically without the presentation of the live questions of legislation. Our agricultural papers should be reliable compendiums of legislative matters. Our colleges that teach agriculture should send out grad-

Pennsylvania Farmer

September 29, 1913.

uates that understand the whole business and not just one side. I regret to say these things and to write them, but I am so thoroly convinced that the uplift of the farmer is dependent upon his conception of his civic duty that I must take that message, even tho it may seem to conflict with the message of others, or even the lifework of others.—John A. McSparran.

GRANGE GROWTH

The grange is growing in membership rapidly but safely. There is nothing of the mushroom variety in this growth; it is based on good foundations and largely because farmers are coming to see that organization is as necessary for them as it is for men engaged in any other form of labor. The grange offers the opportunity the farmers are seeking. It is the greatest farmers' organization in the world in that it seeks to help the farmer along educational and social lines as well as financial, and its present membership of about 1,000,000 makes it a force with which those who make our laws must reckon.

In the first nine months of the present year 365 new granges were organized, and 18 were reorganized and, says a good authority, "as nearly as figures can be compiled at one set time, there are now fully a million grange members in the United States." There are approximately 7,000 local or subordinate granges, holding about 112,000 meetings each year, whose total audience mounts up to more than 7,000,000 people in the year. Discussions in these many meetings of those questions that bear most directly on the farmers' interests, cannot fail to have a deep and lasting influence in moulding public opinion and, therefore, state and national legislation along those lines that make for the welfare of the tiller of the soil.

The Grange and the Road Bond.—The officials of the Pennsylvania State Grange are rightly taking an active interest in the attempt to defeat the proposition to borrow \$50,000,000 for good roads. The statement of State Master W. T. Cressy seems to size up the thing about right. He says that the interest on the \$50,000,000 at 4 per cent would amount to \$2,000,000 a year, and to this must be added the amount collected each year for the sinking fund of \$1,000,000 which, if the bond issue is to run 50 years as now intended, would require the raising of from three to three and a half million dollars annually. His contention is that if they start with that sum and add to it the amount the State now appropriates for good roads, there will be from five to six million dollars annually for the highway department, which is all they can spend intelligently and economically.

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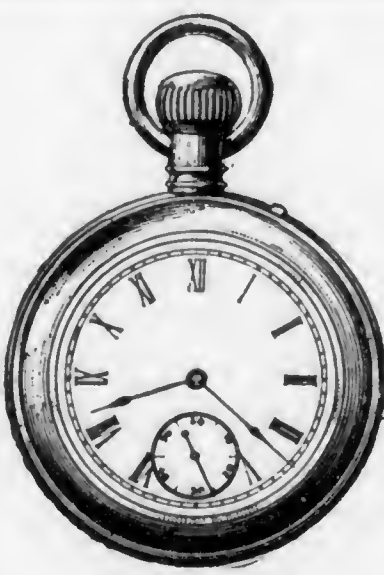
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PENNSYLVANIA FARMER, 214 South 12th Street, Philadelphia, Pa.

September 29, 1913.

THE RISK IN THE ROAD AMENDMENT.

Has Our State Highway Department Proven It Is Worth \$50,000,000?

I wish to commend the Pennsylvania Farmer for urging every one of its readers to write the Pennsylvania State Highway Department for results of investigation about this proposed \$50,000,000 road bond issue. It has always been most unsatisfactory for us here in East Lampeter Township to obtain information. Whether Commissioner Bigelow did not have a proper representative at Harrisburg to attend to his mail, whether his department couldn't give the information sought, or else did not wish to take the public into his confidence, is all a matter of speculation. The point is we folks couldn't get the information sought, and if two or three thousand readers of the Pennsylvania Farmer write a personal letter to Mr. Bigelow, it will reveal to each man who writes just exactly how his department does business. It would be a good thing if some of the Highway Department's unsatisfactory replies to specific questions were sent to the editor of the Pennsylvania Farmer for publication.

Some years ago my own township Supervisor Board was deliberately "held up" for over \$200 cash money due us. When I took the office of Road Supervisor and began to study the problems of that responsible job, I found that the Highway Department had good-naturedly "put one over" on us, and that, try as we did, we were "stung" for our \$200. Our township attorneys had even thrown up their hands in utter hopelessness at getting any satisfaction from the department. The money was back appropriation money due us which had been appropriated to us but had been withheld by the Department. This sort of thing was not right. Our local roadways needed the aid, and the State Department had procured our township money from the Legislature. But we didn't get it, and the Highway Department said it was our fault.

So I took hold of the thing myself. First, I gathered all the facts from our ex-supervisors and my own supervisor colleagues. Then, procuring proper blanks, all this data were properly filled in and sworn to, and handed to State Senator John Homsher, our local representative. He personally delivered it to the Highway Department. We kept hammering away and finally Senator Homsher, and a colleague of his from Warren county, got a special bill passed and signed by the Governor, authorizing this money to be paid to East Lampeter. But still we never got the money!

Every effort resulted in a quiet hold-up. Finally, after endless persistence, I managed to get a brief note signed by Commissioner Bigelow himself, stating curtly that there was no lawful authority whereby we should be paid \$200.

This was a "knock-out" blow after we had had a special law passed and signed by the Governor appropriating this money. But the devious ways of side-stepping at Harrisburg are so complex and various that as yet we are still looking for our \$200.

I repeat this experience of my own because it clearly illustrates how utterly unsatisfactory it is to attempt to procure complete and helpful information from Commissioner Bigelow's Highway Department, and I am certainly afraid of such business management. And yet we find a deft, skilled newspaper series of road articles pub-

lished each week in the papers, urging us to vote \$50,000,000 into the hands of such an unsatisfactory organization of road engineers and business men.

The latest prop being used is that, if we vote the bond issue, the money will come in regularly to the Highway Department, and that "liberal allowances could be made for repairs and for the improvement of the 'dirt roads' in townships." Do you notice that word "could?" Of course it "could." This sort of talk really is nothing more nor less than bait to land the farmer's vote for the fifty million amendment. But I don't believe the present Highway officials "would," neither do my neighbors.

The \$50,000,000 proposed road bond issue has nothing whatsoever to do with the farmer's "dirt roads." Remember that.

The bond issue merely gives the chance to the highway engineers and other "near" engineers (especially in matters of finding "soft" contracts), to have greater freedom in the expenditure of cash. And cash alone will not get our country earth roadways fixed up respectably. This latter is what we folks who live in the country want. The bond issue does not give it to us, and until we can get a group of Highway Department engineers who can handle our earth roads and unite them into a well-drained, surveyed and patrolled system of State earth roads "dirt roads," (as the "doped" newspaper articles call them), we who live in the country will still drive in the mud.

Suppose for one instant how much better the road conditions would be in every township community in our State if there were conscientious road patrolmen (not men who lean on the shovel handle and tell the other fellow about how the road drag is "all right in its place"—and then let the drag stand alongside the fence to be covered by weeds). Suppose, instead of attempting to construct a lop-sided stone-road system of \$15,000 to \$30,000 per mile highly-engineered stone roads, we had a Highway Commissioner who would put his brains and wonderful engineering skill into starting a road drag patrol system throughout every township in our great Keystone State. Then within one year we folks in the country districts would have some satisfactory idea as to the qualifications and capable practical helpfulness of our Highway Department to us who drive the country earth roadways whether frozen or in liquid form.

I believe if our Highway Department would give its attention to constructing a comprehensive State-wide country earth road system, and would let us see that it was worthy of our trust, we folks would go after this idea of bonding our State for even \$100,000,000. But the present group of road officials at Harrisburg haven't proven that they can handle their respective jobs, and I don't believe that any medicine like a \$50,000,000 bond issue is going to teach them.

The medicine our country earth roads needs is work. The very best grade of work is exactly that which a road engineer ought to be able to put upon it. He can survey an earth road and plot his results upon a piece of blue print paper in such a simple, clear and inexpensive way that any farmer can read exactly where the road needs to be widened, cut down, filled in, ditched or drained by a concrete culvert or galvanized ingot iron piping.

And the farmer can do the work when guided by the blue print map. But no such State-wide system has been inaugurated by our officials. Everything has been on a one-sided

scale for high-priced, macadam roads, associated with fat contracts and "soft" profits, and we might as well be guided by the experience of New York State in its high-priced macadam troubles. Study this closely.

When New York State got its bond money the \$50,000,000 didn't last long. Governor Dix's Highway Department proved that it was more proficient in the handling out of "soft" contract favors with a political influence than in making roads where strict integrity prevailed. New York's experience with having a lot of money to spend for high-priced, stone roads has taught them that with road engineers in command, such as in Governor Dix's retinue, incompetency instead of ability was on top.—Dr. Donald McCaskey, Lancaster County, Pa.

Looking Over The Fence.

By THE COUNTRY PARSON.

Pulling Out of the Mud

Did you ever see a woman in supreme disgust with the way her kitchen was being kept, let the "help" go to a funeral or picnic, put on a blue wrapper, roll up her sleeves and, sustained by that feeling which our grandmothers called "righteous indignation," plunge into a frenzy of general cleaning up? Who can blame her? Careless indifference and slothful incompetence are so exasperating (at least in other people), that every energetic housekeeper has more than once been tempted to do this very thing.

If we cannot blame her, we can however ask ourselves what the result of such a spurt of culinary moral fervor is likely to be. So far as the cook is concerned, she will either be shamed into mending her ways (provided she does not quit her job, just for spite) or she will take advantage of the work done by her mistress to still further neglect to perform her proper duties. The mistress will either look after her kitchen more frequently or she will rest content with having gone thru a strenuous spasm of applied kitchen morality and permit things to go as they went before. In the first case, there may be a decided gain; in the latter, there is a decided loss; and the last state of kitchen, cook and mistress is worse than the first.

The "road days" held during the month of August by several of our states under proclamation of their Governors remind me very much of this above described kitchen cleaning day. I do not blame the people. Here again careless indifference to the public welfare on the part of those officers of the commonwealth, whose proper duty it is to build and maintain the people's highways, together with a slothful incompetence to solve the problems presented by this task, created a situation so exasperating that in the State of Missouri, for instance, 250,000 people forsook their regular occupations in order to "pull Missouri out of the mud."

According to the press reports of our daily papers, Governor Major, clad in a brown corduroy suit and a hickory shirt, led 250,000 Missourians in their "road work." The highway engineers from bordering states arrived early to watch road building in the "show me" State. So did the moving picture men, who seized the opportunity to fill up a few rolls of film. "The Governor, the heads of the state department, judges, state officials, business men and prisoners dug and shovelled with blistered hands and sore muscles."

The politicians, no doubt, turned out in force.

"The fragrance of fried chicken filled the atmosphere of Missouri. From all points came reports that the wives and mothers of the state were serving them to the workers." "The 6,000 members of the Missouri Federation of Women's Clubs aided the movement in every way possible." "Good humor was everywhere in evidence." And now the Governor of Missouri expects to call upon the Governor of each state to make these days, August 20 and 21 "good road days" in each commonwealth. "Then we will have the people of the entire Republic working upon the highways of the nation during the same two days." Just, I suppose, as we have the people of the entire Republic planting trees on Arbor Day, or making bird nests on Bird Day!—Oh big, generous, patient, common people of this beloved country, what guileless, boyish innocence is thine!

But do we not need good roads? A verily, just as badly as we need clean kitchens. Who would deny that? But there is a right and a wrong way to get them; and what is of equal, if not of greater importance, keep them good and clean after we have gotten them.

In the spring of 1912 they had a municipal housecleaning day in Baltimore. The movement was inaugurated by the Woman's Civic League, with the cooperation of the newspapers. White flags were distributed by the children. The heads of the municipal departments promised their aid. After weeks of preparation the great day came. Baltimore was to be converted into a spotless town. The head of the Street Cleaning Department, a typical machine politician, appointed by an outspoken machine spoils-system administration, did splendid service. He was invited into the sacred precincts of McCoy Hall, Johns Hopkins University, to a meeting arranged by the Woman's Civic League. After he had spoken on street cleaning to that audience, he was presented with a bouquet of flowers. The mantle of respectability was thrown over him and his political associates. The great mass of the common people were dumfounded.

Our municipal housecleaning day is forgotten. Baltimore is as dirty as it ever was. Its political crooks are as exasperatingly indifferent to the public welfare and as slothfully incompetent to perform the proper duties of their offices as they ever were. Meanwhile, the great mass of public, having gone through its spasm of applied public morality and having done the applying itself, is seemingly exhausted by its strenuous effort which lasted two whole days. It is letting the municipal kitchen take care of itself. And so our present state is worse than the first. Having had an opportunity to observe one example of public kitchen cleaning conducted by the mistress instead of the cook, and having seen its effect upon the kitchen, the cook and the mistress, I may be pardoned for making public these misgivings.

And yet, this great uprising of the populace in an effort to remedy what years of political inefficiency and incompetence have wrought with respect to the public highways is an inspiring thing. I have an abiding faith in the uncorrupted democracy of the common people. I only hope that these "good road days" will result in an insistence, which will brook no refusal, that public officials faithfully perform public duties. If there is any hope of that being the result, then I am willing that the Country Parson should lead his parishioners in working two days upon the roads, although I know it is going to make him feel as if his wife had given the cook a day off and persuaded him to help her clean the kitchen.

Household

CITY PEOPLE'S HONESTY.

Garden and Orchard Stealing.

It is not often that we hear of a countryman taking a bottle of milk or a doormat from the door steps of his city cousin. He is not often found prowling around in the back yards stealing things off the porch. Perhaps it is only because the city police are so vigilant and he is afraid of being caught, but I doubt it! I venture to say that the thought never enters his mind when he takes a trip to the city.

But put the shoe on the other foot, and let the city man or woman visit the country! Presto—change! If they had any honesty at home, it is left there with the old clothes, and a new set of morals is packed in with the new finery.

We live near a watering place on the bay, and have a fruit farm. It is accessible by land or water, and as it is over 500 acres in size, it is not very well patrolled. Now, in season, there is



CONVENIENT LAMP HEATER. CAN BE CARRIED IN THE POCKET.

always a lot of ripe fruit that is not fit to ship to market and anyone riding in and making a polite request will be invited to sit down and fill up. There a generous amount will often be given to carry away to friends at home. But somehow that does not suit the city visitors. They must locate the orchard where the fruit is ripe and the first chance they get they lead a nice gang down at night and the fun begins. They go about from tree to tree squeezing hard peaches and hunting for soft ones. Of course, all the peaches squeezed will rot and not be salable, but what do they care? They are having the time of their lives! They trample the tomato vines and spoil lots of tomatoes, but they care little for that. They turn a basket over and sit on it, and great fun ensues when the basket breaks and they go over. Baskets only cost about 5 or 6 cents, so that is not much! If they had any common sense they would put two or three baskets together and that would hold them, but who wants to take common sense along when they go for a vacation! That commodity is left home with the old clothes and morals.

And so it goes! The good time they are having, and the few eatable peaches

they are getting will not cost the farmer much more than \$8 or \$10, and everybody knows the farmer is rich (?). Why the things just grow! Yes they do grow, but it is hard work to make them do it. The bugs and worms nearly worry the life out of him when he sees them on his cantaloupes and watermelons. So he buys expensive sprays and pumps and in time, after hard work, he sees his watermelons getting ripe. Then he must maintain his fences. But here come a gang of campers, and his watermelons are no more. Spraying and fences will not do thieves any good. They are immune.

And chickens! Poor Mrs. Farmer labors and sweats. Young chicks are a job to raise up alive and well. So she begins to count the days when fried chicken will be ripe, but wakes up some morning to find her henhouse raided and her chickens gone.

Then, canneries are another nuisance in this way. The labor is brought from the city and we have found it a rather lawless lot. They will go right into your gardens and get all the truck your family is so hungry for. They visit potato patches for miles around and help themselves. One man will go to the front door and dicker for a basket of grapes with the owner of the farm. While this is going on his confederates are in the vineyard helping themselves.

And so it goes. Every hand is ready to take something from the farmer—and then take his hand too. Farmers have enough to worry and contend with in the weather and diseases which come, for every crop has two or three hard spells of sickness of some sort, before it is brought to maturity, and a good many never reach the ripe old age at all—they die in their prime—and the farmer can only pocket his loss and hope for better luck next year.

So, Miss City, put this in your latest novel and read it well. Consider the points in the case. If you want nice peaches, pears or watermelons, go to visit the farmer in the daytime and see what bargains you can get. He is a real go' fellow not at all what the comic supplement would have you believe him to be. He always knows just where the best things are and always sells for the price the commission man sets which is usually very small. His wife will sell you nice rich milk or nice fat chickens, but don't steal it. She works hard to get a few good things to eat in the summer and you have the advantage of the city markets all the year around when she and her family must live on dried fruit and vegetables. So please pack your very best morals in your suitcase. If anything must be left out, leave home the disposition to steal!—E. Harris, Kent Co., Md.

GIVING RECIPES TO THE PUBLIC

In giving recipes for various forms of cookery, the giver should be accurate and know of what she is telling. First, you will notice the majority of recipes, especially in the magazines for women, decidedly scrumpy. Follow rules and you get about enough material for two instead of even a moderate-sized family. A young girl in my presence, noting a recipe for a cheap sponge cake, set to work to follow the recipe. "It does look small," she remarked as she placed it in the oven; "but it may swell up big." It came out but little larger than when it went in.

Many recipes for cooking meat will give you the time for boiling. I have never found the time given accurately. For instance, they tell, "When boiling beef measure the time for boiling as 15 minutes for each pound." A young married friend of mine, getting up a first dinner in her new home, did as the recipe told her. The piece of beef

weighed just four pounds, and 15 minutes for each pound meant that it must boil just an hour. Dinner must be served at high 12, and by 11 the meat was boiling. At 12 it was not done, as any housewife of experience must know; neither was it tender when one struck. That bride learned by experience and not by recipe how much longer it takes even a tender piece of meat to cook done, and that 15 minutes to the pound will never do to count by.

Often in the giving of recipes for the making of fruit butters, jellies, etc., misleading directions are given in some papers, more often the daily that carries a column or more of recipes. Here the acceptance of recipes is often looked after by a man, whose culinary knowledge is limited, to say the least. For instance, in one of these columns in rhubarb time some subscriber asked for a good rhubarb jelly recipe. Some woman answered it and carried off the dollar given for any one recipe, by merely telling her to peel and cut the rhubarb in bits, boil tender, squeeze the juice thru a jelly bag, and for every pound of juice add a pound of sugar; then boil as you do other fruit juice until the juice drops thick and coagulating from a spoon.

The plain truth must be that this woman had never made rhubarb jelly, for rhubarb will not jell in the way she described at all. She might make rhubarb molasses, but not jelly by such a recipe. Rhubarb juice requires the addition of some other quick jellifying fruit juice, or gelatine, if it turns into anything like jelly. So be accurate.—Ida M. Shepler, Indiana.

PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt and age for children's patterns. Address: Pennsylvania Farmer, 214-18 So. 12th St., Philadelphia, Pa.



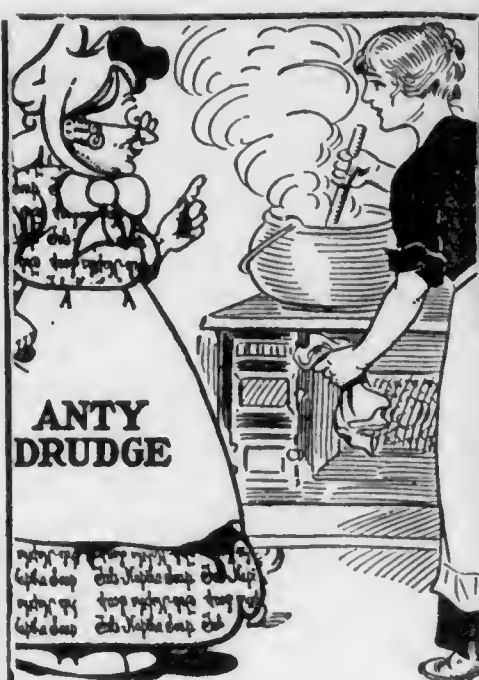
6324—Ladies' Five-Gored Skirt.—Five sizes, 22 to 30 inches, waist measure. Size 24 requires 2½ yards of 44 inch material, without up and down. Price of pattern, 15 cents.

6347—Misses and Small Women's Coat.—Five sizes, 14, 16 and 18 years. Size 16 requires 3½ yards of 44-inch material. Price, 15 cents.

6331—Ladies' Corset Cover, without Shoulder Seams.—Five sizes, 34 to 42 inches, bust measure. Size 36 requires 2½ of 134-inch wide flouncing. Price, 10 cents.

6305—Girl's Dress.—Four sizes, 6 to 12 years. Size 8 requires 2½ yards 36-inch material, ¾ yard 27-inch contrasting goods. Price, 10 cents.

6221—Girl's Dress.—Five sizes, 4 to 12 years. Age 8 requires 2½ yards 36-inch material; 1 yard 27-inch contrasting material. Price, 10 cents.



Mrs. Neufarmer: "Come in, Anty Drudge—one of my neighbors gave me a recipe for soap and I'm trying to make it. Did you see my chickens? All thirteen hatched out, so I drowned eleven, because I thought two was all the old hen could suckle."

Anty Drudge: "Land sakes, woman! You've got lots to learn! There never was a hen that couldn't take care of thirteen chickens, and nobody with sense makes soap any more. They use Fels-Naptha for washing and everything else. Buy it by the box and keep it on hand."

Every woman can cut her work in half by letting Fels-Naptha Soap do the hard drudgery for her.

Fels-Naptha dissolves grease, takes out stains and does away with wash-day drudgery. Clothes soaped with Fels-Naptha and put to soak for 30 minutes in cool or lukewarm water require no hard rubbing and no boiling. Just as good for all kinds of housework.

Full directions on the red and green wrapper.

Better buy it by the box or carton.
Fels & Co., Philadelphia.



These Japanese characters translated into English mean: "Two Necessities in Every Home."



Kyohei Inukai is a Japanese artist. He was born in Japan—educated in America. Inukai's fame will be world-wide in the not far future because Inukai artistically is a wonderful product of the Orient. The example of his work shown on this page, illustrates his directness of vision in voicing the message of Montgomery Ward & Company's Catalogue. When asked to convey through his art the idea behind the great Ward book of bargains, he sent in this drawing and over it he wrote in Japanese and English these words:

"Two Necessities
In Every Home"

Everybody knows that the first necessity of every home is a Baby—a boy or girl or a bunch of both. The Baby is the monarch absolute of every fireside where he sets up his throne and goes forth with ruthless hand to slay a fond mother's ribbons and put dents in Daddy's derby. How much more you feel the responsibility of home-keeping when the little fellow comes—How much more you appreciate the things that help the home, that beautify the home, that economize for the home—that help the home to prosper—for Baby's sake.

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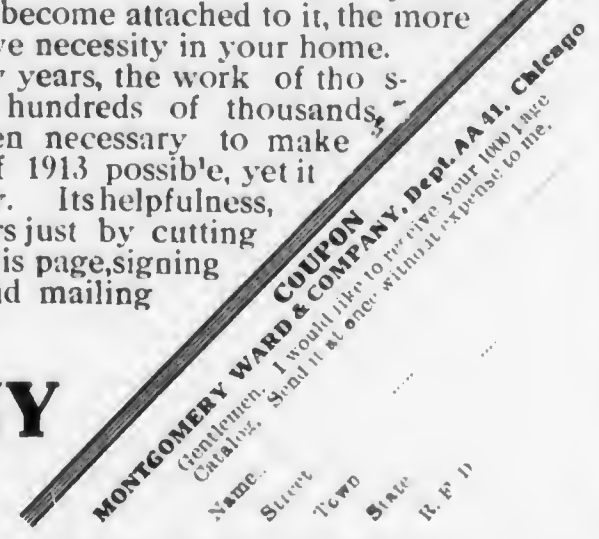
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Winston of the Prairie

By HAROLD BINDLOSS

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CHAPTER I.

Rancher Winston.

It was a bitter night, for the frost had bound the prairie in its iron grip, although as yet there was no snow. Rancher Winston stood shivering in a little Canadian settlement in the great lonely land which runs north from the American frontier to Athabasca. There was no blink of starlight in the murky sky, and out of the great waste of grass came a stinging wind that moaned about the frame houses clustering beside the trail that led south over the limited levels to the railroad and civilization. It chilled Winston, and his furs, somewhat tattered, gave him little protection. He strode up and down, glancing expectantly into the darkness, and then across the unpaved street, where the ruts were plowed a foot deep in the prairie sod, towards the warm red glow from the windows of the wooden hotel. He knew that the rest of the outlying farmers and ranchers who had ridden in for their letters were sitting snug about the stove, but it was customary for all who sought shelter there to pay for their share of the six o'clock supper, and the half-dollar Winston had then in his pocket was required for other purposes.

He had also retained through all his struggles a measure of his pride, and because of it strode up and down buffeted by the blasts until a beat of horse-hoofs came out of the darkness and was followed by a rattle of wheels. It grew steadily louder, a blinking ray of brightness flickered across the frame houses, and presently dark figures were silhouetted against the light on the hotel veranda as a lurching wagon drew up beneath it. Two dusky objects, shapeless in their furs, sprang down, and one stumbled into the post office close by with a bag, while the other man answered the questions hurled at him as he fumbled with stiffened fingers at the harness.

"Late? Well, you might be thankful you've got your mail at all," he said. "We had to go round by Willow Bluff, and didn't think we'd get through the ford. Ice an inch thick, any way, and Charley talked that much he's not said anything since, even when the near horse put his foot into a badger hole."

Rude banter followed this, but Winston took no part in it. Hastening into the post office, he stood betraying his impatience by his very impassiveness while a fallow-faced woman tossed the letters out upon the counter. At last she took up two of them, and the man's fingers trembled a little as he stretched out his hand when she said: "That's all there are for you."

Winston recognized the writing on the envelopes, and it was with difficulty he held his eagerness in check, but other men were waiting for his place, and he went out and crossed the street to the hotel where there was light to read by. As he entered it a girl bustling about a long table in the big stove-warmed room turned with a little smile.

"It's only you!" she said. "Now I was figuring it was Lance Courthorne." Winston, impatient as he was, stopped and laughed, for the hotel-keeper's daughter was tolerably well-favored and a friend of his.

"And you're disappointed?" he said. "I haven't Lance's good looks, or his ready tongue."

The room was empty, for the guests were thronging about the post office then, and the girl's eyes twinkled as she drew back a pace and surveyed the man. There was nothing in his appearance that would have aroused a stranger's interest, or attracted more than a passing glance, as he stood before her in a very old fur coat, with a fur cap that was in keeping with it held in his hand.

His face had been bronzed almost to the color of a Blackfeet Indian's by frost and wind and sun, but it was of English type from the crisp fair hair above the broad forehead to the somewhat solid chin. The mouth was hidden by the bronze-tinted mustache, and the eyes alone were noticeable. They were gray, and there was a steadiness in them which was almost unusual even in that country where men look into long distances. For the rest, he was of average stature, and stood impassively straight, looking down upon the girl, without either grace or awkwardness, while his hard brown hands suggested, as his attire did, strenuous labor for a very small reward.

"Well," said the girl, with Western frankness, "there's a kind of stamp on Lance that you haven't got. I figure he brought it with him from the old country. Still, one might take you for him if you stood with the light behind you, and you're not quite a bad-looking man. It's a kind of pity you're so solemn."

Winston smiled. "I don't fancy that's astonishing after losing two harvests in succession," he said. "You see there's nobody back there in the old country to send remittances to me."

The girl nodded with quick sympathy. "Oh, yes. The times are bad," she said. "Well, you read your letters, I'm not going to worry you."

Winston sat down and opened the first envelope under the big lamp. It was from a land agent and mortgage broker, and his face grew a trifle grimmer as he read, "In the present condition of the money market your request that we should carry you over is unreasonable, and we regret that unless you can extinguish at least half the loan we will be compelled to foreclose upon your holding."

There was a little more of it, but that was sufficient for Winston, who knew it meant disaster, and it was with the feeling of one clinging desperately to the last shred of hope he tore open the second envelope. The letter it held was from a friend he had made in a Western city, and once entertained for a month at his ranch, but the man had evidently sufficient difficulties of his own to contend with.

"Very sorry, but it can't be done," he wrote. "I'm loaded up with wheat nobody will buy, and couldn't raise five hundred dollars to lend any one just now."

Winston sighed a little, but when he rose and slowly straightened himself nobody would have suspected he was looking ruin in the face. He had fought a slow losing battle for six weary years, holding on doggedly though defeat appeared inevitable, and now when it had come he bore it impassively, for the struggle which, though he was scarcely twenty-six, had crushed all mirth and brightness out of his life, had given him endurance in place of them. Just then a man came bustling towards him, with the girl,

who bore a tray, close behind.

"What are you doing with that coat on?" he said. "Get it off and sit down right here. The boys are about through with the mail and supper's ready."

Winston glanced at the steaming dishes hungrily, for he had passed most of the day in the bitter frost, eating very little, and there was still a drive of twenty miles before him.

"It is time I was taking the trail," he said.

He was sensible of a pain in his left side, which, as other men have discovered, not infrequently follows enforced abstinence from food, but he remembered what he wanted the half-dollar in his pocket for. The hotel-keeper had possibly some notion of the state of affairs, for he laughed a little.

"You've got to sit down," he said. "Now, after the way you fixed me up when I stopped at your ranch, you don't figure I'd let you go before you had some supper with me?"

Winston may have been unduly sensitive, but he shook his head. "You're very good, but it's a long ride, and I'm going now," he said. "Good-night, Nettie."

He turned as he spoke, with the swift decision that was habitual with him, and when he went out the girl glanced at her father reproachfully.

"You always get spoiling things when you put your hand in," she said. "Now that man's hungry, and I'd have fixed it so he'd have got his supper if you had left it to me."

The hotel-keeper laughed a little. "I'm kind of sorry for Winston because there's grit in him, and he's never had a show," he said. "Still, I figure he's not worth your going out gunning after, Nettie."

The girl said nothing, but there was a little flush in her face which had not been there before, when she busied herself with the dishes.

In the meanwhile Winston was harnessing two bronco horses to a very dilapidated wagon. They were vicious beasts, but he had bought them cheap from a man who had some difficulty in driving them, while the wagon had been given him, when it was apparently useless, by a neighbor. The team had, however, already covered thirty miles that day, and started homewards at a steady trot without the playful kicking they usually indulged in. Here and there a man sprang clear of the rutted road, but Winston did not notice him or return his greeting. He was abstractly watching the rude frame houses flit by, and wondering, while the pain in his side grew keener, when he would get his supper, for it happens not infrequently that the susceptibilities are dulled by a heavy blow, and the victim finds a distraction that is almost welcome in the endurance of a petty trouble.

Winston was very hungry, and weary alike in body and mind. The sun had not risen when he left his homestead, and he had passed the day under a nervous strain, hoping, although it seemed improbable, that the mail would bring him relief from his anxieties. Now he knew the worst, he could bear it as he had borne the loss of two harvests, and the disaster which followed in the wake of the blizzard that killed off his stock; but it seemed unfair that he should endure cold and hunger too, and when one wheel sank into a rut and the jolt shook him in every stiffened limb, he broke out with a hoarse expletive. It was his first protest against the fate that was too strong for him, and almost as he made it he laughed.

"Pshaw! There's no use kicking against what has to be, and I've got to keep my head just now," he said. There was no great comfort in the reflection, but it had sustained him before, and Winston's head was a somewhat exceptional one, though there was a rule nothing in any way remarkable about his conversation, and he was apparently merely one of the many quietly-spoken, bronze-faced men who are even by their blunders building up a great future for the Canadian dominion. He accordingly drew his old rug tighter round him, and instinctively pulled his fur cap lower down when the lights of the settlement faded behind him and the creaking wagon swung out into the blackness of the prairie. It ran back beyond league across three broad provinces, and the wind that came up out of the great emptiness emphasized its solitude. A man from the cities would have heard nothing but the creaking of the wagon and the drumming fall of hoofs, but Winston heard the grasses patter as they swayed beneath the bitter blasts stiff with frost, and the moan of swinging boughs in a far-off willow bluff. It was these things that guided him, for he had left the rutted trail, and here and there the swift beneath the wheels told of taller grass, while the bluff ran back athwart the horizon when that had gone. Then twigs crackled beneath them as the horses picked their way amid the shadowy trees stunted by a ceaseless struggle with the wind, and Winston shook the creeping drowsiness from him when they came out into the open again, for he knew it was not advisable for any man with work still to do to fall asleep under the frost of that country.

Still, he grew a trifle dazed as the miles went by, and because of it indulged in memories he had shaken off at other times. They were blurred recollections of the land he had left eight years ago, pictures of sheltered England, half-forgotten music, the voices of friends who no longer remembered him and the smiles in a girl's bright eyes. Then he settled himself more firmly in the driving seat, and with numbed fingers sought a tighter grip of the reins as the memory of the girl's soft answer to a question he had asked brought his callow ambitions back.

He was to hew his way to fortune in the West, and then come back for her, but the girl who had clung to him with wet cheeks when he left her had apparently grown tired of waiting, and Winston sent back her letters in return for a silver-printed card. That was six years ago, and now none of the dollars he had brought into the country remained to him. He realized, dispassionately and without egotism, that this was through no fault of his, for he knew that better men had been crushed and beaten.

It was, however, time he had done with these reflections, for while he sat half-dazed and more than half-frozen the miles had been flitting by, and now the team knew they were not very far from home. Little by little their pace increased, and Winston was almost astonished to see another bluff back against the night ahead of him. As usual in that country, the willows and birches crawled up the sides and just showed their heads above the sinuous crest of a river hollow. It was very dark when the wagon lurched in among them, and it cost the man an effort to discern the winding trail which led down into the blackness of the hollow.

In places the slope was almost precipitous, and it behooved him to be careful of the horses, which could not be replaced. Without them he could not plow in spring, and his life did not appear of any especial value in comparison with theirs just then.

The team, however, were evidently bent on getting home as soon as possible, and Winston's fingers were too stiff to effectively grasp the reins. A swinging lough also struck one of the horses, and when it plunged and flung up its head the man reeled a little in his seat. Before he recovered the team were going down-hill at a gallop. Winston flung himself bodily backwards with tense muscles and the reins slipping a trifle in his hands, knowing that though he bore against them with all his strength the team were leaving the trail. Then the wagon jolted against a tree, one horse stumbled, picked up its stride, and went on at a headlong gallop. The man felt the wind rush past him and saw the dim trees whirl by, but he could only hold on and wonder what would take place when they came to the bottom. The bridge the trail went round by was some distance to his right, and because the frost had just set in he knew the ice on the river would not bear the load even if the horses could keep their footing.

He had not, however, long to wonder. Once more a horse stumbled, there was a crash, and a branch hurled Winston backwards into the wagon, which came to a standstill suddenly. When he rose something warm was running down his face, and there was a red smear on the hand he lighted the lantern with. When that was done he flung himself down from the wagon dreading what he would find. The flickering radiance showed him that the pole had snapped, and while one bronco still stood trembling on its feet the other lay inert amidst a tangle of harness. The man's face grew a trifle grimmer as he threw the light upon it, and then stooping glanced at one doubled leg. It was evident that fate which did nothing by halves had dealt him a crushing blow. The last faint hope he clung to had vanished now.

although as the wagon had been built for two horses he had little hope of driving it again. It was a bitter, gray day with a low, smoky sky, and seemed very long to Winston, but evening came at last, and he was left with nothing between him and his thoughts. He lay in a dilapidated chair beside the stove, and the little bare room through which its pipe ran was permeated with the smell of fresh shavings, hot iron, and the fumes of indifferent tobacco. A carpenter's bench ran along one end of it, and was now occupied by a new wagon pole the man had fashioned out of a slender larch. A Marlin rifle, an ax, and a big saw hung beneath the head of an antelope on the wall above the bench, and all of them showed signs of use and glistened with oil. Opposite to them a few shelves were filled with simple crockery and cooking utensils, and these also shone spotlessly. There was a pair of knee boots in one corner with a patch partly sewn on to one of them, and the harness in another showed traces of careful repair. A bookcase hung above them, and its somewhat tattered contents indicated that the man who had chosen and evidently handled them frequently, possessed tastes any one who did not know that country would scarcely have expected to find in a prairie farmer. A table and one or two rude chairs made by their owner's hands completed the furniture, but while all hinted at poverty, it also suggested neatness, industry and care, for the room bore the impress of its occupier's individuality as rooms not infrequently do.

It was not difficult to see that he was frugal, though possibly from necessity rather than taste, not sparing of effort, and had a keen eye for utility, and if that suggested the question why with such capacities he had not attained to greater comfort the answer was simple. Winston had no money, and the seasons had fought against him. He had done his utmost with the means at his disposal, and now he knew he was beaten. A doleful wind moaned about the lonely building, and set the roof shingles rattling overhead. Now and then the stove cracked, or the lamp flickered, and any one unused to the prairie would have felt the little loghouse very desolate and lonely. There was no other human habitation within a league, only a great waste of whitened grass relieved about the homestead by the raw cloods of the fall plowing, for, while his scattered neighbors for the most part put their trust in horses and cattle, Winston had been among the first to realize the capacities of that land as a wheat-growing country.

Now, clad in well-worn jean trousers and an old deerskin jacket, he looked down at the bundle of documents on his knee, accounts unpaid, a banker's intimation that no more checks would be honored, and a mortgage deed. They were not pleasant reading, and the man's face clouded as he penciled notes on some of them, but there was no weakness or futile protest in it. Defeat was plain between the lines of all he read, but he was going on stubbornly until the struggle was ended, as others of his kind had done, there at the western limit of the furrows of the plow and in the great province farther east which is one of the world's granaries. They went under and were forgotten, but they showed the way, and while their gerund was usually six feet of prairie soil, the wheat-fields, mills, and railroads came, for it is written plainly on the new Northwest that no man may live and labor for himself alone, and there are many who realizing it instinctively ask very little and freely give their best for the land that and indifferently shelters them.

Presently, however, there was a knocking at the door, and though this was most unusual Winston only quietly

moved his head when a bitter blast came in, and a man wrapped in furs stood in the opening. "I'll put my horse in the stable while I've got my furs on. It's a bitter night," he said.

Winston nodded. "You know where the lantern is," he said. "There's some chop in the manger, and you needn't spare the oats in the bin. At present prices it doesn't pay to haul them in."

The man closed the door silently, and it was ten minutes before he returned and, sloughing off his furs, dropped into a chair beside the stove. "I got supper at Broughton's, and don't want anything but shelter tonight," he said. "Shake that pipe out, and try one of these instead."

He laid a cigar case on the table, and though well worn it was of costly make with a good deal of silver about it, while Winston, who lighted one, knew that the cigars were good. He had no esteem for his visitor, but men are not censorious upon the prairie, and Western hospitality is always free.

"Where have you come from, Courthorne?" he said quietly.

The other man laughed a little. "The long trail," he said. "The Dakotas, Colorado, Montana. Cleaned up one thousand dollars at Regent, and might have got more, but some folks down there seemed tired of me. The play was quite regular, but they have apparently been getting virtuous lately."

"And now?" said Winston, with polite indifference.

Courthorne made a little gesture of deprecation. "I'm back again with the rustlers."

(To be continued.)

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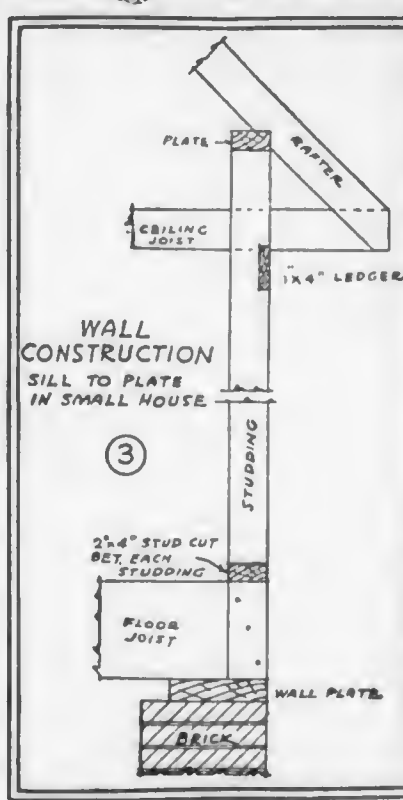
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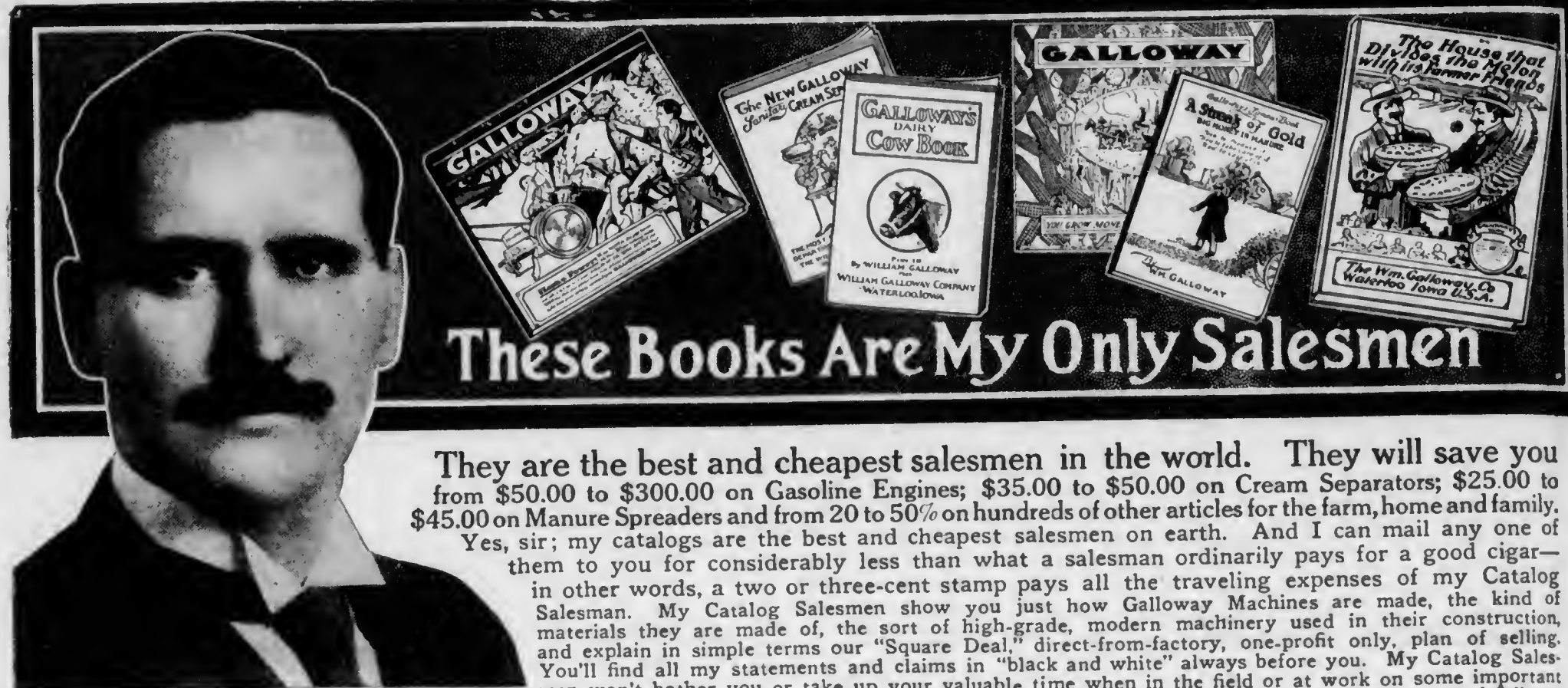
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THE KEYSTONE OF
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The Best Variety of Wheat

With wheat as with other cereals, variety is an important consideration from the standpoint of the grower. Too often little attention is paid to the sort of wheat sown. When seeding time comes, the grower, if he does not have grain of a desirable quality for sowing, often goes to the miller or warehouse for his seed grain. While it is desirable to get clean, pure seed for sowing, yet the variety of wheat should be known. Much seed wheat is sold from year to year merely upon its reputation for making a good yield that particular season. This is generally an unsafe method of getting seed wheat

the same conditions of fertilization for a number of years. The only place where such work is done is at the various state experiment stations, and the grower should carefully study the results of these tests before buying seed wheat promiscuously. It is true that there is considerable difference in the yielding power of the many varieties of wheat. Some varieties excel in length of head, size and density of grain, while others make up their deficiency in these characters by greater resistance to disease and by more tillering. The habit of a variety to give a high average yield from year to year is far while the wheat is heading, have the effect of lessening the yield.

During the past six years the Delaware Station has tested nearly 100 varieties of wheat, and results show that there is much difference in the resistance of varieties towards unfavorable weather conditions. In the main, bearded varieties have been more consistent yielders than the smooth, indicating that the former are less affected by seasonal conditions. It is true that in some years both types have given excellent yields, while in other years the smooth wheats would shrink in yield far more than the



A BUSY DAY AT THE TRI-STATE FAIR GROUNDS, TRENTON, N. J. THIS YEAR'S FAIR, SEPT. 29 TO OCTOBER 3.

as most varieties will give good yield when soil and season are just right.

To buy seed wheat of a particular variety merely because it made a good yield for a man who had never grown it before is not a safe practice. In order to gauge the superiority of the new wheat, a portion of the field should have been sown to the old variety or to some recognized standard variety. It is impossible to get a measure on the relative yielding capacity of varieties of wheat unless they have been grown side by side on the same soil under more important to the grower than the tendency of a variety to give a phenomenal yield one year and then fail to duplicate the performance under ordinary conditions. Studies at the Delaware Station show that certain varieties vary less in yield thru a period of years than other varieties grown under identical conditions. The humid atmosphere of the Coast States seems to encourage the development of certain fungous diseases which attack the wheat about blossoming time or a little later. Likewise, periods of rainy weather, which frequently occur

Recent work at Delaware indicates that varieties of wheat differ considerably in their capacity for using plant food. Certain varieties have been grown for several years under various degrees of fertiliza-

tion and planted in such a manner that the number of tillers per plant could be noted. It appears that some varieties will make a fair yield under no fertilization, while others will fall 50 percent or more in yield below their competitors. Under normal or heavy fertilization this difference in yield is less marked, but the relationship between the varieties remains the same.

In this case, also, the bearded varieties have had the advantage, as they in general produce better yields on medium to poor land than will the smooth. This behavior of the smooth and the bearded types of wheat is borne out by the experience of practical growers. A list of questions bearing on wheat production was sent to farmers in 1912 and they were asked to give their opinions as to the reliability in production of the bearded and smooth varieties. Out of 241 replies, 169 stated that the bearded wheats were more satisfactory, while 58 favored the smooth types. Of the total number, 34 stated there was no difference. However, these figures indicate that the bearded wheats are giving the best returns in most cases. Several of the growers stated that the smooth wheats would give splendid yields when conditions were just right, but that the bearded varieties varied less in yield from year to year.

As a result of six years' work with varieties of wheat at the Delaware Station it has been found that of the 10 varieties leading in yield, nine have been of the bearded type and one of the smooth type. Among the bearded wheats, Rudy, Red Wonder, Lancaster, Red Prolife, Lehigh, Valley, Gypsy, Lebanon, and Farmers' Friend have been the best yielders. Of the smooth varieties, Currell's Prolife, Perfection and Poole have led. Perfection and Leap's Prolife, which have been tested for a shorter period, are of special promise. The average yield per acre of the 10 best producing bearded varieties over a period of six years has been six bushels per acre more than the average of the five best smooth varieties for the same period.

Newly introduced varieties of wheat are often in demand among farmers if the initial yield has been good. However, this does not establish their claim to superiority, as a good soil and favorable season may have been responsible for the high yield. Recently many inquiries have been received by this station regarding the merits of the Mirale and Stoner wheat. This wheat has been grown for four years by the Delaware Station and tested as regards rate of tillering, thickness of seedling, etc. It is claimed that three to four pecks of seed is a sufficient quantity per acre. The variety does tiller well, but not more so than some other well-established varieties. In fact, Gypsy, Mediterranean and Lehigh develop tillers as freely as the Mirale.

Other varieties than the Mirale might be sown at a less rate per acre with the same results. In fact, a bearded variety, Auburn Red, was tested this year by sowing at various rates per acre from two to eight pecks per acre. The two-peck seedling gave as large a yield as the six-peck seedling, and somewhat more than the eight pecks. This further strengthens our previous opinion that any high tillering, resistant variety may be sown at a less rate per acre on good soil.

That the yield of wheat is largely determined by the variety sown is shown by some co-operative work carried on with Delaware farmers the past year. Sufficient seed of two varieties, Gypsy and Leap's Prolife, were furnished for one-half acre each, which were to be sown in the same field and under the same conditions as the wheat grown by the owner. The half-acre plots were to

be threshed separately, as well as an acre of the owner's wheat grown alongside. In one case where the farmer's wheat was Fultz-Mediterranean, a smooth variety, the yield was 15 bushels per acre; that of the Leap's Prolife 22 bushels and that of the Gypsy 26 bushels. In practically every case of the 10 co-operators the introduced wheat made a better yield than the owner's wheat. In one instance, where the co-operator had a splendid bearded variety, the difference between the new wheat and the owner's was very little. The quality and the yield of the introduced varieties was good enough this poor season that the co-operators are sowing the seed for the next seedling.

As the variety of wheat often makes a difference of 5 to 10 bushels per acre, it pays to get seed of a well-known strain. The fixed charges of growing a wheat crop are about the same, whether the yield be 15 bushels or 25 bushels per acre. The average yield per acre of wheat in the United States is about 14 bushels, and as it costs \$10 to \$12 per acre to grow wheat, it will be seen that there is little profit under 15 bushels per acre. Hence, some attention paid to the variety of wheat will often determine the profit per acre.

LIME AND SOIL FERTILITY.

Lime, considered as the source of calcium, is one of the ten essential elements of plant food. As such, it is required in only small amounts, and it is



SHOWING DIFFERENCE BETWEEN GOOD AND POOR VARIETIES OF WHEAT.

Gypsy, on left, yielded 28 bu. per acre; Fultz, on right, gave 21 bu. per acre.

probable that nearly all soils contain enough to satisfy the direct needs of the plant.

Lime, considered as a basic material capable of neutralizing acids, has other and not less important functions to perform. Many acid or sour soils do not contain enough lime to perform these functions. The supply of nitrogen in the soil is largely maintained thru the aid of nitrogen-gathering bacteria, which work on legumes, such as clover, alfalfa, soy beans and vetch. These small organisms have the power to take nitrogen from the air and, after using it, convert it into an available form of food for plant growth. These bacteria do not thrive in acid soils. Clover, if it grows on such soils at all, fails to develop nodules and does not increase the nitrogen supply in the soil.

The United States Bureau of Soils, after making a soil survey of Butler and adjoining counties in Pennsylvania, recommended the use of lime as a means toward making our local soils more productive. In the maintenance of soil fertility, the crop producing power of a soil, lime has unquestionably

won a very important place in agriculture. The recognition of the value of lime in farm practice is not new. Pliny, in his writings, testified that liming was practiced by the Romans more than two thousand years ago. In England, Germany, France and other European countries, the application of lime in the form of marl, shells, and limestone, has been and is still practiced extensively.

The fertility of our soils can only be maintained by intelligently following the practices which long years of experience by our best farmers have demonstrated to be correct. In modern agricultural practice the factors, organic matter (humus) and lime, are of vital importance to the farmer, and the community at large as well.

"Public prosperity is like a tree; agriculture is its roots; industry and commerce are its branches and leaves. If the root suffers the leaves fall, the branches break, and the tree dies." This is the philosophy of the Mongolian people who have maintained some of their soils for more than 4,000 years.

In solving this problem of soil fertility in the Atlantic Coast States; that is, in Pennsylvania, New Jersey, Delaware, Maryland and Virginia, lime becomes a very important factor. These states use more lime than probably all the other states combined. There are certain indications that point to the necessity of lime. The fact that clover no longer does well on a soil that once grew clover is an indication that some condition needs to be satisfied. Usually

plowed under to enrich the soil in humus, crop yields are invariably increased. The clover not only adds humus but, thru its nitrogen-gathering bacteria, enriches the soil in this most costly fertilizing element—nitrogen. This increased bacterial action, together with a better soil aeration, results in a more abundant supply of the mineral elements, phosphorus and potash, becoming available for plant growth. Where lime is used on soils that fail to produce clover otherwise, and when it is used as a supplement to other processes in crop production, the yields and net profit per farm are usually increased.—Harvey S. Adams, Agriculturist, Butler County Farm Bureau.

EVERY FARMER A CORN BREEDER

Start Now.

Every farmer can be a plant breeder, and especially a corn breeder, as well as an animal breeder, which he really is, whether he realizes it or not. But very few farmers are making use of this opportunity of plant breeding to improve their varieties of farm plants and thereby greatly increase the production of their farm crops. It is best for the farmer to begin with corn because he is more familiar with the factors entering into the breeding of corn than with the smaller grains. And right now, while the corn is being cut, is the time for the farmer to make the start. It is too late when the corn is in the shock or in the crib, or perhaps in the silo, if it is to be used for forage only.

You ask, why and how? The first answer is simple and the second is easier to give than to put into practice. But the second is the more important because it is more essential to our successful farm management than we select and breed only the best seed corn and that we know why we are doing it.

We breed corn for the same reason that we breed animals—to improve the stock. When we breed animals we follow out certain well-established principles. If, for instance, we have a herd of Holstein cattle that are too poor to be classed as good, and too good to be classed as poor, and want to improve the herd, we would breed to the best Holstein sire we could get. We certainly would not expect improvement if we in-bred, or bred our herd to an inferior sire.

If we wanted to breed a mare so as to get a heavy draft horse, we should breed to a Clydesdale or Percheron stallion, certainly not to a sire that had none of the particular qualities for which we were breeding. If we had a farm flock of mongrel chickens, and wanted to cross them in order to increase egg production, we would likely introduce into the flock each year a few pure-bred white leghorn cocks, until we had a flock of fairly pure-bred, high egg-producing White Leghorn chickens.

And so, year by year, the farmer has determined what the character of his farm stock should be. If he has been a wise farmer, he has kept in mind all the time the one idea of improvement, regardless of whether it was his horses, cattle, hogs, sheep, or his poultry. Farther than this, he has actually brought about larger, stronger and swifter horses; larger or richer milk-producing cows; larger and better beef cattle; that demand the best market prices; better strains of hogs and sheep; and higher egg-producing quality. And it has all been done on his own farm, under his own supervision.

We breed corn for the same reason—to improve the variety in order to increase the production per acre. It paid to increase the milk-producing power of the herd 25 percent; it paid to breed heavier horses to do the work; it paid to raise chickens that laid eggs when

eggs were high in price, and it will pay in the same way, only possibly more so, to improve the variety and to increase the production and value of the corn crop. If all or some part of the barren stalks in your corn field had produced one good ear of corn; if all or some part of the matured small ears had been large ears; if every seed planted that did not germinate and grow had likewise produced the corn you expected it to yield when you planted it, what would have been the value of your corn crop this year over and above what you actually got? Improvement and increased value and production answer the question why every farmer should breed his own corn. The answer to the second question, how, must be simple and practical, for it is the more important consideration. It is this: Put into practice in the corn field the guiding principle that you used in the breeding of the farm animals, "selection." Before the horse was domesticated, the process of "natural selection" went on. After he became domesticated, man made the selection and determined what animals should reproduce and under what conditions of breeding.

In our corn fields today, nature is have largest leaf development, and that appear most succulent and least fibrous. If the selection is being made for forage only, the latter factors are sufficient for the present. Early and late varieties of corn will show the same qualities. A slightly different method of handling will be necessary because the ears to be used for seed must remain on the stalks until they have matured. In all cases, select more ears than you will likely need for seed.

Third, the farmer is ready now to store and care for the selected ears over winter. This can be done by keeping them in a cool, dry place, preferably not subjected to extremes of temperature. A very common practice is to drive ten-penny wire nails into an eight or ten-inch board in such a way that by reversing the board the sharp ends of the nails will be slanting upwards. The board is then nailed to the walls of the crib, out of the way, or wherever else you may decide to keep it, and the butts of the ears are fastened on the nails. This is a simple, cheap and efficient method, and will serve the purpose as well as a more expensive, home-made or purchased wire or other corn rack. If there is any danger from birds, the husks may be kept on the



SHOWING DIFFERENCES IN VARIETIES OF WHEAT AS TO STRENGTH OF STRAW AND RESISTANCE TO STORMS.

ing the selecting. This stalk of corn is one next to it in the same row, or to another stalk across from it in the neighboring row, which may be barren. Being pollinated by these two stalks. The result is necessarily a decrease in the production and a deterioration in the variety. Nature is no respecter of good varieties of corn in this manner. So, when we begin to breed, the first and last principle in the process is selection. It is the most important factor in the process of breeding that the farmer has to deal with, and he begins in this way:

First, he should go to the corn field himself, with a bag or with a man to carry the bag of selected ears. This may seem simple, ridiculously so, but it is the most difficult step to take. The object of the statement lies in the fact that the farmer either heartily suspects or absolutely knows the value of a corn selection, but has never made it.

Second, if selection is made primarily for grain, and secondarily for fodder, select ears that show the following characteristics: Maturity, well-filled tip, butt, a good ratio between the grain and the husk, a short shank and standing well and close to the stalk, and are high or low on the stalk, all ears fertilized, compact and not loose of kernels, not near a barren stalk; select from stalks that show most vigorous and strongest growth; that

are otherwise there is no particular advantage in this practice. Having gone thru the field and selected the ears and stalks of corn bearing the qualities which the farmer wishes to reproduce and improve, and having taken steps to properly care for the corn thus selected, the first step has been taken toward larger and improved corn production. The farmer has made his first experiment and successful demonstration that he can be and should be a plant as well as an animal breeder. He may expect large profits from his labor when the corn crop is harvested next fall.

In the first selection a number of different varieties of corn has been found and the ears selected are the best specimens of that variety. It is most important now that the farmer actually makes the selection, direct from the field before the corn is cut.—John H. Reiser, Onondaga Co., N. Y.

Hog Cholera in Burlington.—There is much alarm among the hog raisers in Burlington Co., N. J., over an outbreak of hog cholera. Several farmers have already lost all their hogs. Many have injected the immunizing vaccine into their hogs. The result of this treatment will be watched with interest, as it is supposed to give immunity to all treated for at least three months. The treatment has been successful elsewhere. Prof. F. C. Minkler, of the Department of Animal Husbandry of the State College, however, advises against its use and in favor of serum. The latter is not to be used until the symptoms of the disease have made their appearance.

Our Farm Counselor

By R. P. Kester, Penna. Farm Advisor on Soils and Crops.

Fall Plowing

The question of plowing in the fall for spring crops is debated pro and con. As to whether it is good or bad practice depends on the character and location of the soil. We have heard the argument that if it is necessary to raise cover-crops to keep plant food from leaching from the soil during the winter, it is unwise to fall-plow land and expose it to the weather.

There is a difference in the conditions; cover-crops are grown on land that has been cultivated during the summer. As a result of cultivation and the exposure of the soil to the sun and air, much plant food is made soluble and available in the late summer that is not used by the ripening crops, and hence is readily leached from the soil by winter and spring rains. This is especially true of nitrogen. Hence a cover crop is valuable in that it appropriates this available plant food and holds it near the surface.

It is usually sod land that is plowed in fall. The grass roots perform the same service during late summer and fall that the cover crops do, using up the soluble plant food, leaving but little to be leached away when the soil is turned over later.

The bacteria that convert the nitrogen into soluble nitrates do their work in the soil only when the soil temperature is above 50 degrees. Fall plowing is generally done after the warm weather is over and the soil is chilled, and little plant food is in a leachable form at that time. Nitrogen and lime, when in a soluble condition leach from the soil readily, while the other elements, potash, phosphoric acid, etc., remain more firmly "attached" to the soil particles until released by the dissolving acids of plant roots.

Land that is steep, or so gravelly or sandy as to be easily moved bodily by washing should not be plowed in the fall, even if it be sod. There are not the same reasons for plowing such land in the fall since it can be plowed readily early in spring.

There are several advantages in plowing land in the fall when the soil is adapted to it. If it is a clay soil, the alternate freezing and thawing lines it better and cheaper than mechanical means. If harrowing is commenced as soon as it dries enough in spring, the water which has fallen during the winter and early spring can be kept there for the growing crop by maintaining the dust mulch. Fall-plowed land becomes firmly settled before seeding time, and when well-harrowed on top is an ideal seed bed.

Deep plowing may be practiced in the fall since the exposure of the subsoil thus brought up to the action of the air and freezing weather liberates plant food and reduces the soil to a fine mechanical condition. Little injury is done by plowing land when quite wet in the fall, since freezing prevents its baking and becoming cloddy, while if plowed wet in the spring the soil is injured and succeeding crops suffer.

The summarize, soil land that is clayey and not too steep is benefited by fall plowing. Little injury will result from plowing corn stubbles in which there has been no cover crop sown unless the land is subject to surface washing. Fall plowing is best done in the months of November and December, a season in which other farm work is not crowding, and when plant food is not being rapidly made ready for plants because of the low temperature of the soil.

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Horticulture

SUGGESTIONS FOR STARTING AN APPLE ORCHARD

Present indications point to a heavy planting of apple trees this fall. The ever-increasing interest which is being shown in apple production, both for pleasure and for profit, is resulting in yearly plantings, which are being made under all kinds of conditions. Some trees will live, but many more will die and the grower who carefully studies the situation beforehand and familiarizes himself with the natural demands of a newly-planted tree is the man who will have the 8 percent loss rather than the 98 percent.

If the prospective orchardist can select the ground upon which he will found his future hopes, he is fortunate. Many already have a farm, and they must make the best of existing circumstances and trust that the land is suitable in every way for apple production. The man who buys his farm will have in mind a few essentials which are more commonly advised for orchards. He will think first, of elevation, atmospheric and ground drainage; and while these



A PART OF THE DWARF APPLE ORCHARD ON THE RUTGERS COLLEGE FARM, N. J.

Photo by Courtesy of Prof. M. A. Blake.

points are certainly essential, there are many others which are commonly overlooked, and which often account for the failures which are so frequently noted.

Elevation as expressed in number of feet is not of so much importance and in many cases the higher the elevation the less desirable the location. Elevation must be considered as regards the surrounding country and not in relation to sea level. An orchard should stand above the adjoining lands and not necessarily on the highest prominence to be found. Indeed, such an exposed location is to be avoided, since it usually results in harmful exposure.

If a high and wind-swept location must be taken, protection of some kind from the prevailing winds should be provided. A hedge row often is sufficient, or even a rail fence, but in most cases a substantial wind break composed of evergreen and deciduous trees must be planted a year, if possible, in advance of the fruit trees.

There are many advantages to wind-breaks in exposed situations, but the most important are: Protection from extreme cold, lessening of windfalls, lessening the mechanical injury from winds upon fruit or ice laden trees, protection to blossoms, reducing the danger of crooked trees and last but not least, the lessening of evaporation of moisture from the bark of the trees. This last point is important since it is the cause of the winter killing and it is so generally overlooked. The greater the wind force during win-

ter the greater will be the evaporation of the sap and vital juice of the bark. The roots at this time being inactive cannot replenish this lost sap and hence the wood or bark tissue suffers and the damage results in what is commonly called winter killing. It must be borne in mind, however, that a windbreak under careless management may become a harboring place for insect and fungus pests. Hence, it is necessary to keep a constant vigil in this particular, for in many cases it is necessary to spray the windbreak just as thoroughly and vigorously as the orchard.

If a choice can be made between land lying adjacent to a body of water and interior land, the decision should always be in favor of that near the water. The ocean, rivers and lakes have a marked influence on temperature to a distance of sometimes as much as three miles inland. During seasons of late frosts this advantage is often enough to make the difference between profit and loss. The larger the body of water the farther inland is the influence and depth of water is more important than breadth. On lake shores the amelioration of temperature rarely goes further than the crest of the hill.

Before any orchard land is purchased it is important to consult the weather

records for that particular locality. The annual rainfall and the frost dates must be studied. The selection of the varieties must depend somewhat upon these records. It would be very foolish to depend upon early blooming sorts when frost records indicate a possibility of late frosts. These points are usually overlooked and yet they are vitally important.

Long before planting is to be done the matter of selecting trees must be attended to. In the magazines and fruit catalogs there are to be found many sorts of trees offered for sale ranging in price as low as 9 or 10 cents. For the farmer who wants to make a planting of a dozen or so trees in his home orchard, such trees may be all right, but for the commercial grower they are out of the question. The planting of trees is a permanent investment, one that lasts a lifetime, hence, any mistake made at the beginning lasts until the end and is always an eye-sore and a cause for regret. Select a nursery near by which has a reputation for honesty and integrity and pay the proprietor of that nursery a visit. Make him understand that you want trees one year from the bud or graft, straight, of an average size, which means neither the overgrown nor the undersize specimens and that you want to pick these trees out personally. This last point will be a hard one to carry, for most nurserymen object to such a method of selling trees. Probably the only way to get him to consent will be to pay him

a few cents extra per tree. This may mean a considerable difference in the total bill, but it pays and is the only safe course to pursue. In the contract, make the nurseryman agree to ship the trees on a certain date so that the arriving date will be known and preparations can be made so that everything will be in readiness for immediate planting. Never be unprepared so that the trees must be "heeled in." Such a practice is all right in a nursery, but extremely bad in an orchard.

When the ground is prepared the error should not be made of being short of time so that the trees must be planted in strips. Start now! Remove needless fence rows. Only boundary fences are essential since live stock and apples make a poor combination. Plow every foot of the orchard land. Roll it and harrow it until the soil is in garden tilth. Trees will not thrive on poorly prepared land any more than will corn or wheat, altho many growers seem to think to the contrary.

Trees are sometimes plowed in, but so are potatoes and the results in both cases are generally the same. However, a line of stakes driven around the border of the field the distance apart the future trees will stand may be placed, and if a good ploughman and a steady team are at hand, furrows can be struck opposite each stake and running to meet the corresponding stake at the other end of the field. This operation is done after the field has been fitted, and is not intended to take the place of the spade, but merely to lessen the amount of hand work. Later, transverse lines of stakes must be run across the field at right angles and crossing in the center. This divides the field up into four squares and provides two stakes on which to sight from any position in the field. All of the holes should be dug before the trees arrive.

When the trees come, remove them from the boxes immediately and thoroughly wet the roots. If the order is large there should be several shipments each small enough so that it can be planted before the next one arrives. Three good men can plant from 600 to 1,000 trees if the field is fitted as above described.

One man holds the tree in place and sights in one direction, while the second man sights in the other direction. The third man gradually shovels in the soil after the tree has been correctly placed. If the top and roots are well pruned and care is taken to have the soil firm under the crown and around the roots, little loss will result and the work may be quickly done.

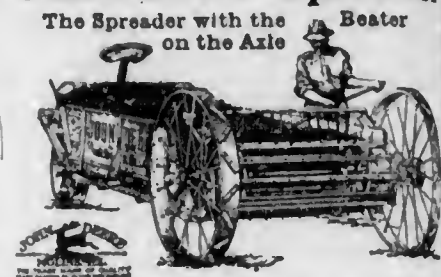
It is better not to prune the top entirely at planting time since some killing back of the branches or whip may result. Some should be cut off at planting and the remainder next spring before growth starts.

After planting a field make a scale map of the field showing the location of every tree, the variety and planting date. This will be valuable information in later years.—L. Wayne Arny, New York.

Pennsylvania Farmer

September 27, 1913

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MENTION PENNSYLVANIA FARMER IN WRITING our advertisement.

September 27, 1913

being done in the agricultural school at the college, viz.: The instructional work, the research work, and the extension work. It was evident from his remarks that Prof. Watts is quite optimistic as to the future outlook of the agricultural school along all lines. He spoke encouragingly of the splendid corps of instructors connected with the school, of the new and varied lines of equipment for practical work, of the different lines of investigational, research and extension work; and ventured a few prophecies as to the future of these lines of work. As of interest to the farmer, Prof. Watts laid special stress upon the extension work, including the agricultural trains, the issuing of bulletins, the farmers' week held at the college during the December holidays, and the county agent work. Prof. Watts' hope for the agricultural school as it touches the interests of the farmer is summed up in his declaration, "We want every farmer to feel the pulse of the Agricultural School," and in this particular he made an appeal to the farmer to co-operate with the college in a campaign for funds sufficient to carry on its work adequately.

Prof. Fagan, assistant professor of horticulture at State College, spoke on the subject, "Practical Hints in Orchard-riding That We May Learn from Our Neighbors." He emphasized the necessity of an interchange of ideas between farmers and farming communities and showed by practical instances how our next door neighbor may have solved a problem which is troubling us and vice versa.

Prof. Fagan reviewed some of the ideas which he had gleaned from a recent sojourn in New York orchards and tried to impress the members of the association with the necessity of getting out to meetings in order to keep abreast of the latest methods in orchard practice. He also made an appeal to the growers for exhibits of fruit for the Fruit Judging Contest to be conducted under the auspices of the American Pomological Society at Washington in November.

Prof. Surface, State Entomologist, who followed Prof. Fagan, advocated the growing of fruit for quality rather than quantity, and also the grading of the fruit on the tree, and urged that fruit for shipping be picked while still in firm condition. He suggested the encouraging of local canneries as an avenue thru which to dispose of culls and such fruit as could not be put upon the market.

Prof. Surface also spoke upon some of the essentials in orchard work, such as proper pruning, cultivation and spraying, making an appeal also in favor of more uniform packing of fruit and the proper labeling of the package. In this connection, also, he urged the adoption of a guarantee by the grower.

Prof. Surface closed his talk with the announcement that a parasite had been found which has proven effective in the eradication of the San Jose scale in a great many infested districts, concerning which more definite announcement will be made later.

At the evening session, Mr. R. C. Phillips, of Rochester, N. Y., secretary of the International Apple Shippers' Association spoke on the new Apple Package and Grade Law as in operation in New York State. Mr. Phillips also gave some very interesting sidelights upon some of the causes contributing to the present high cost of living. In this connection Mr. Phillips made a plea for the middleman and urged that a better spirit of co-operation be fostered between the middleman and the producer, endeavoring to show by practical illustrations that the middleman is not so black as he is oftentimes painted. He pointed out also that while the middleman is not infallible, neither is the producer and that it is

up to the producer to do as he would be done by in dealing with the middleman, preserving honesty and integrity in all his dealings.

Mr. U. Grant Border, of Baltimore, chairman of the Advertising Committee of the International Apple Shippers' Association, spoke on "Advertising the Apple," outlining the "Stamp Plan" adopted by the association for raising funds for carrying on a continuous country-wide advertising campaign in order to acquaint the consumer with the value of the apple as a food. The plan calls for the placing by growers of a one-cent stamp on every box and a two-cent stamp on every barrel of apples shipped by them. The stamps are to be in the custody of the Equitable Mortgage and Trust Company of Baltimore, which thru the many banks that are its agents in the various sections of the country, will sell the stamps to every grower, shipper or dealer who applies for them. The stamps can be bought in person or by mail, the money derived from the sale to be placed by the Trust Company to the credit of the advertising fund. The committee will have the advice and assistance of advertising experts of unquestioned ability as well as prominent growers and shippers representing every apple-growing district. Further information may be obtained by addressing Mr. Border, 218 Light Street, Baltimore, Md.

The second day of the meeting was occupied with a thirty-mile automobile trip thru the orchards of Adams County. The start was made at Gettysburg at 9 o'clock in the morning, about 31 machines provided by members of the Adams County Apple Growers' Association being utilized for this trip. Stops were made at the orchards of H. M. Keller, H. L. Bream, E. P. Garrettson, Arthur Greist, J. W. Prieckett and Chester J. Tyson, at the last named of which, Dr. J. P. Stewart, of the Department of Experimental Pomology at the Pennsylvania State College, gave a lecture on orchard fertilization, illustrated by charts.

The trip was concluded at Bendersville, where a bounteous repast was served in Fruit Growers' Hall by the ladies of Menallen Friends' Sabbath School.

The great success of the meeting this year was due largely to the efforts of the Adams County Apple Growers' Association, the members of which contributed in every way possible to the entertainment of the visitors.

SPRAY BULLETIN.

The Tennessee Experiment Station at Knoxville, Tenn., recently issued a most excellent spray bulletin—Number 10. Besides giving formulae for all kinds of spraying work it makes the following general suggestions: Never spray when trees are in bloom, but just before the buds are open or after the bloom has fallen. Never put lime and sulphur in a copper sprayer, but use galvanized iron or wood. Great pains should be taken to cover all parts of the shrub or tree. If a rain immediately follows an application of spray, it should be repeated. Do not spray when the foliage is wet. In all formulae requiring quick lime, the best stone lime freshly burned should be used. Air-slaked lime will not answer. Hydrocyanic acid gas should be used with the greatest care and precaution, since it is a violent poison and highly dangerous.

Apple-Tree Tent-Caterpillar.—Bulletin 177 of the Connecticut (New Haven) Experiment Station is a treatise on the apple-tree tent-caterpillar, called forth, "by the unusual abundance in Connecticut in 1913 of the apple-tree or orchard tent-caterpillar." Habits, life history and control are treated.

Pennsylvania Farmer

5-213

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DON'T NEGLECT FALL SPRAYING. GET READY NOW.
Many trees can be saved that would die before Spring if unsprayed. "SCALECIDE" will positively destroy San Jose and Cottony Maple Scale, Pear Psylla, etc., without injury to the trees.

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You can't make an old stable with dirt floors and wood partitions sanitary. Wood partitions gather dust and disease germs. Dirt floors are filthy and will never come clean within a storm or snow or a little rain. When a row gets off her feed and her milk yields fall below normal, look to your stable. It may be as clean as a new milk pail, but that can't be rowed enough. Equip your stables

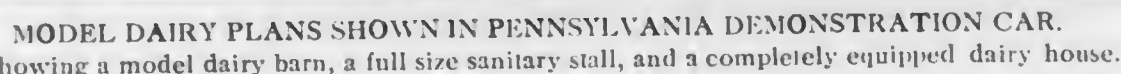
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LOUDEN MACHINERY COMPANY, 254 Broadway, Fairfield, Iowa



At a recent meeting of the Northern New York Dairymen's League the fact was brought out that New York City is now paying 9 cents per quart for their milk, which is over \$3.60 per can. Of this the farmer receives only about \$1.20 at the present time. This price moves much lower in June and sometimes higher in December. What the league proposes to do is to secure the control of 75 percent of all the cows that furnish milk for New York and then it will be in position to dictate terms to the shippers or own the stations themselves and do their shipping.

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Molasses is high in carbohydrates but low in cost. Animals like it—thrive on it. Horses have more "work energy"; cows produce more milk. Feed molasses to your stock for a month and note results.

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A black and white photograph showing a vintage car, possibly a Ford Model A, parked on a grassy lawn. The car is positioned to the right of a building with a prominent porch. The porch has a decorative railing and a set of steps leading up to it. The car has a sign on its side that reads "MAX". The background is filled with trees and foliage, suggesting a park or a large estate. The overall scene is peaceful and well-maintained.

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Grange

GRANGE DAY AT NEW YORK STATE FAIR

In excellent addresses on important themes, National Master Wilson, State Commissioner of Agriculture, Calvin J. Huson, State Master W. H. Vary, Dean Baker, of the Syracuse College of Forestry, and Miss Hogeboom, of the Woman's Work Committee of the State Grange, spoke of the rapidly growing importance of the agricultural interests and education as a means to their advancement, on the occasion of the grange day exercises at the New York State Fair.

Commissioner Huson outlined the extent of our agricultural lands, and stated that there were engaged in agriculture in this state, in one capacity or another, about 1,500,000 people on 220,000 farms. And the results of their labor is shown in the almost \$300,000,000 of farm produce of all kinds taken from these acres every year. The commissioner greeted the 100 boys of the Farm Camp, who were present, and informed them that there would be 100 girls from the farms here another year, who were to be chosen according to the same plan as the boys have been. They are to be under the care of ladies who will be selected for the purpose and they will be quartered in dormitories rather than in tents.

National Master Wilson, who has been for the past month or more in New England, addressing grange field meetings, was received with warm greeting when he arose to speak. He took up several questions briefly, but perhaps laid most emphasis on the education needed by our rural young people. He thought that too much time was wasted in studying the dead languages by those who were not fitting for the learned professions; and while not opposed to them, he believed that the young men of the farm needed to study about the things they had to deal with almost daily and which would develop the mental capacity about as well as Latin or Greek. Scientific training along practical agricultural lines was the kind of training the young people of the farm most needs in his estimation.

Dean Baker was in charge of the Farm Boys' Camp, and when introduced the boys gave him an ovation. He spoke of those who were the guests of the fair last year and thought this year's "hunch" was just as good. He then took up the question of forestry for the farms and urged farmers to plant out their waste land to forest trees.

State Master Vary presided, and spoke briefly, and Miss Hogeboom, of the Woman's Work Committee, read a paper on the need of young people of the farm fitting themselves to be leaders in their communities. She believed the duty of the rural school to be to fit country children for country life and in so doing it will direct the thought and the life of the rural community very largely.

There were several of the state grange officials present and the occasion was a most pleasant one.—D.

PROPORTIONAL REPRESENTATION

Will the question of proportional representation in the National grange come up again for discussion at the next meeting of the national body? Very likely. The fact is, it is likely to form a subject of discussion there until some form of proportional representation is adopted. This is the resolution that was presented last year and voted down: "Resolved that every state master and wife (or husband) shall

have each one vote on all questions. On roll call every state master and wife (or husband) shall have one vote each, and for each and every 10,000 members above the first ten thousand, shall have one vote each additional."

There are two sides to this question of representation according to state membership. One side believes that the founders of the Order were wise in their adoption of state representation, giving each state an equal vote with every other, and they cite the fact that that system has worked well for these 46 years. The other side holds that it is only fair to the membership of the Order that voting strength be based on membership in the state. There are two or three counties in New York state, each of which has more members than a half-dozen of the western states combined, but a state with 1,000 members, for instance, has just as great voting strength as New York with 105,000 members. The resolution that was voted down at the last session called for state representation on all questions except when a roll call was ordered, then for membership representation. Will the next national meeting come any nearer solving this very perplexing problem?—D.

SINGLE TAX ON LAND VALUES

How to apportion taxes among the taxable inhabitants, so that all shall be obliged to pay their just proportion has been a difficult problem to solve, and its perfect solution seems as far off as ever. How to prevent some property from being taxed twice; how to make taxes stay where they are put; and how to prevent the dishonest from hiding their property from the assessor, are questions that have never been fully answered.

It is well known that taxes do not always stay where they are put. The manufacturer adds the amount of his taxes to the expenses of his establishment, and reimburses himself by increasing the prices of his goods. It is much the same with the merchant who adds his taxes to his expense account, and marks his goods high enough to secure a desirable profit. Railroad corporations and coal companies always make their charges high enough to pay expenses (taxes included) and dividends. Farmers would not be a whit behind any other class in shifting their burden of taxation to other's shoulders if they were able to do so; but they have never been able to regulate the amount of production, or fix the price of their products. They are obliged to sell at the market price. There is no doubt that land has always paid more taxes than rightfully belonged to it, because it can not be hidden. It is in plain view, where all the world, "and the rest of mankind," and the assessor, can see it.

It may be this fact that led Henry George to conclude that the best system of taxation would be to put all the taxes on "land values." He explains his meaning of the term as to the value of the land at Johnstown after all the buildings had been swept away by the terrible flood, and nothing remained except the naked land.

For the purpose of investigating the effect of the single tax on land values, I have taken the census of 1890, which is the only one I have on hand; but for comparison it does not make any difference what census is taken. According to the census of that year the sum total of all the direct taxes of every description, national, state, county, township and municipal, was \$1,040,473,013. The total expenditures of the national, state, territorial, county, township and municipal governments on all accounts was \$915,954,055, nearly a billion of dollars. The amount actually

collected from the people was more than \$1,040,000,000. This immense sum the single taxers propose to collect from the land alone, irrespective of the buildings, or improvements. Is such a thing possible?

The total assessed value of the real estate, with the improvements and personal property of all kinds made taxable by law in the United States, the District of Columbia, and the territories (except Alaska), was \$95,473,173,418. Should all the tariff and revenue laws be repealed, and the whole amount required by the national and municipal governments be procured by a direct tax on real estate and improvements, then it would require an average of 5 percent on their assessed value to produce the billion dollars, and over, which was collected from the people in the census year of 1890.

Edward Atkinson, one of the ablest political economists in the United States, says: "Land, as a whole does not pay its owner 5 percent above the cost of cultivating it; or above the fair returns on capital invested for the purpose of using and occupying it for manufacturing, trading or commerce. A large proportion of our farm lands, especially, yield no rent, i. e., no income above the average returns on labor and capital." But the advocates of the single tax do not propose to place it on the value of both land and improvements. They declare their purpose to put it on the value of the naked land as it would be after all the buildings and improvements had been removed; as Mr. McKnight says in the Pennsylvania Farmer of June 28th: "Just as long as we tax improvements (fine would be a better term) we may expect to see farm property offered for sale at prices which would not replace the buildings on them."

Edward Atkinson estimates the lands in the United States to be worth on an average no more than the improvements that have been put upon them, and Mr. McKnight seems to agree with him. The total assessed value of the land

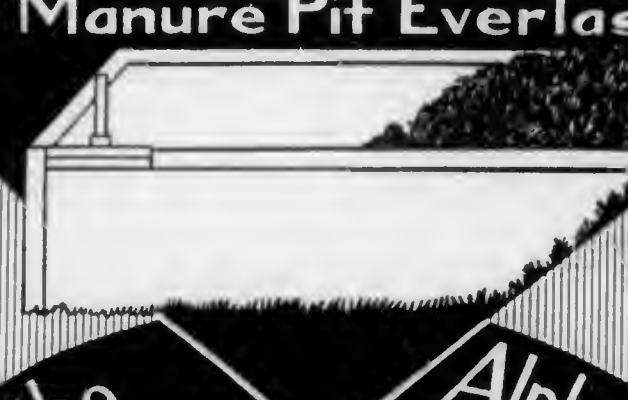
and improvements in the United States and territories, according to the census of 1890 was \$18,956,556,675. If the land (exclusive of improvements) was worth one-half of this sum, and all the taxes placed upon it (as would be absolutely necessary, in accordance with the single tax theory) there would have to be an average of 11 percent on the valuation.

Mr. George never denied that his single tax theory, if adopted, would confiscate all property in land. He says: "To reach this point of theoretical perfection, at which land would have no selling value, i. e., would yield to the owner no income, would be to reach what Mr. Atkinson himself confesses to be the ideal. Even before that point was reached, mere ownership would cease. Men would not care to own land they did not use, and users of land (where their use was more than transient) would become the legal owners, having the annual privilege of peaceable possession so long as the tax was paid." How the new tenants or holders could pay the exorbitant taxes which bankrupted the former owners Mr. George never told us, but everybody knows that they could only do it by forming a great trust, and putting up the price of all farm products to overmatch their taxes. The price of farm products has always been established, and is still established, by the immutable law of supply and demand, but to obtain the higher prices needed by the government's tenants, the government would have to establish the prices by law.

Mr. George made a few farmers believe that the bulk of the single tax would fall on the Astors, in the cities, and on the owners of the coal mines, the gold mines, the silver and copper mines, and that farmers would have but little to pay.—J. W. Ingham, Bradford Co., Pa.

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OUR ROADS NEED SYSTEMATIC STATE CARE

The Bond System Won't Do This

Press dispatches tell of the organization of the Pennsylvania Good Roads Association, and its advocacy of the proposed \$50,000,000 bond issue for better roads. Of course, this means the state's system of stone roads at \$15,000 to \$20,000 per mile. The officers, numbering about 25, are all prominent and presumably influential, in their particular lines of politics, manufacturing or mercantile work, but we fail to find any among their number who are closely interested in, or authorities on the construction and maintenance of country roads—the kind that you and I have to travel.

What we folks in the country want is not a lot of money for somebody to spend whom we do not trust. We want our earth roadways put into one comprehensive state system, and we want a real live road engineer to look after this system and put it into actual execution. It needs to be separated entirely from the stone roads system.

Mr. Frank Lyons, formerly deputy highway commissioner of New York State, put the earth roadways of the entire state of New York into excellent condition within one year; and he did it within his first year of official duty. He fixed up the country roads which lead from the farms to the railroad stations, to the creameries, the country stores, churches and to the city market places.

Here is how he did it: He hooked two road graders on behind a first-class steam road roller. As soon as an earth road was surveyed by his civil engineers as to its proper width, grading, culverts, etc., Mr. Lyons had his various county road gangs go to work upon a road. Each road was widened to its legal distance. It was graded. Culverts were constructed, and when the crown had been rolled down by the road rollers, the King road drag (they call them road hoes in New York State) was put to work by regular and well-paid patrolmen. The regular dragging of the earth roads after every rain transformed the roads of the state within one year. The farmers of the Empire State got what was rightfully coming to them. It was Mr. Lyons' system that did the job in every county.

Has anything like this work been attempted in our own great Keystone State with its 66 counties? It could be so if there was anybody in the Highway Department who knew how and had the nerve to tackle such a job. But I don't believe there is anybody. That is one reason why I am afraid to trust \$50,000,000 to this Highway Department of ours. It has not demonstrated that it can take care of the most important roadways—the highways which lead to the railway stations, country stores, schools and the markets.

When Pennsylvania's highway system embraces work similar to that of Mr. Lyons, then we can begin to think about a \$50,000,000 bond issue. But just now every idea of good roads seems to be to spend money. And just the expenditure of cash will not give us the good country earth roads we want. Our township road supervisors have proven that they do not understand how to manage without a lot of money, and even then the average township road does not reveal the thousands of dollars' worth of labor invested in it!

Get this fact clearly in your mind. The \$50,000,000 road bond issue does not provide for any earth road system of construction and maintenance. The fifty millions merely open the treasury for many a "soft" contract. When we vote for such a tremendous proposition as a \$50,000,000 road bond issue, we folks who live in the country want

our earth roads taken care of with that money along a system of work.—Dr. Donald McCuskey, Lancaster Co., Pa.

POLITICAL ROADS

As showing the possibilities involved in the road bond issue, if approved at the fall election, I send you a clipping from the Coatesville Times:

"In the list of counties of Pennsylvania in which contracts will be given by State Highway Commissioner Bigelow for State road improvements, Chester county was not mentioned. Bids for twenty-four miles of new stone road will be received and contracts let this fall."

In a conversation with the State Senator from Chester county last winter, during the pendency of the nomination of Bigelow for his present position, I asked him what he meant to do. "The people of this county," said he, "do not want Bigelow confirmed. I expect to represent that feeling. And yet there will be a howl later, for Bigelow is going to be confirmed, and this county will not get a mile of the new State roads."

How well he sized up the situation and its consequences the clipping discloses. More than that, it shows what power \$50,000,000 proceeds of the bonds will be in the hands of corrupt politics if politics chooses to risk such coincidences in the future. Let me add that our experience with State roads is that they last about five years. If the bonds last ten, then for five years more we shall be paying for a dead horse.—Charles H. Darlington, Chester County, Pa.

Looking Over The Fence.

By THE COUNTRY PARSON.

The "Fourteen European Countries" Investigation.

The American Commission on Agricultural Co-operation, after investigating the co-operative system of fourteen European countries, under direction of the Southern Commercial Congress, is now at home. By the way, I have a confession to make. The constant reiteration of that "fourteen European countries" somehow always reminds me of "57 varieties." I know it is not right, but I simply cannot help thinking of it. No offense is intended, and I hope none will be taken.

The congress in connection with its Mobile convention is now organizing a large expedition to inspect and perhaps participate in the first official trip thru the Panama Canal. "Auxiliary" to this expedition will be organized the Latin-American Trade Tour, limited to fifty selected guests who will visit the chief Latin-Americans for ninety days to give them study to commercial conditions. Just how these fifty guests were selected and just how they are to make a thorough study of commercial conditions in the chief Latin-Americans during a brief period of ninety days are questions which have not been answered to my full satisfaction.

The organization of these international junkets seems to be the chief occupation of this congress, which has taken for its motto: "For a greater nation thru a greater South." It undoubtedly makes some profit out of these tours, for of the \$1,200 paid by each delegate of the Commission on Agricultural Co-operation, which visited "fourteen European countries," \$300 went to the Southern Commercial Congress for the expense of organization and the publication of reports. The United States Government also made a liberal appropriation for its representatives on the commission.

Now, all of this may be, if not per-

fectly good business, at least a harmless amusement, and I would ordinarily have no criticism to offer. But since this investigation of agricultural co-operation, savings and credits is made in the interests of the farmer, I wonder how many real farmers were members of this commission. I wonder why we could not have gotten this information, secured at such expense by visiting "fourteen European countries" in three short months (from which the time of ocean travel and attendance at the International Institute of Agriculture at Rome must be deducted) thru the United States counsels resident in these fourteen countries. We may assume that these officers of the Federal Government are not only competent to report on a rural savings and credit association, but that they thru their official position would have very exceptional opportunities to secure information not easily obtainable by a large party of tourists bent on visiting fourteen countries in the shortest possible time.

A very valuable report of this character was recently made by the Hon. Maurice F. Egan, United States Minister at the Court of Denmark. Since his appointment in 1907, Mr. Egan has been a close student of agricultural conditions in that country and his report, which was printed as Senate Document No. 992, 62nd Congress, 3d session, shows the painstaking thoroughness of his researches. It is therefore by no means clear to me why our foreign counsels, instead of spending all their time in the service of the American manufacturer and exporter, could not in the interest of the American farmer have made similar studies of agricultural co-operative methods in their respective "fourteen European countries."

I am unable to discover any close connection between the Department of Agriculture and this Southern Commercial Congress Commission. True, the Secretary of Agriculture is an honorary member of the congress. So is every other member of the Cabinet, not to mention the Governors of a dozen different states. That may mean much or little. The fact is, I have not noticed any great show of interest on the part of the Department of Agriculture in the trip of this commission to these "fourteen European countries." Can this mean that the department pro-

pores to make an independent study of the subject? I trust that such is the case.

I have also noticed some criticism of the activities of the Southern Commercial Congress, e. g. in the Manufacturers Record, a journal devoted to the promotion of the commercial and agricultural interests of the South. Whether or not this criticism is justified I am unable to say. It is, however, somewhat peculiar that this question of agricultural savings and credits is being pushed by the South rather than by the East or West—in order words, by that part of this country which has heretofore never been especially active or prominent in the promotion of agricultural efficiency. I have no explanation to offer for this circumstance. It will, however, be well for the farmer to keep it in mind, when the report of this commission appears and when the results of its visit to, and study of these "fourteen European countries" are presented at his institutes and other meetings.

The Grape Leaf Hopper.—So much damage has been done by the grape leaf hopper recently that vineyard men must make some decided stand against this pest. Bulletin 359 of the New York Experiment Station, at Geneva, N. Y., contains the latest advice for combating this grape insect. It states that the following practices must be adopted: Destroy winter refuges, such as weeds, clumps of dead grass, brush and clusters of fallen forest leaves. Get rid of spring plant food such as raspberry, blackberry, wild strawberry, etc.

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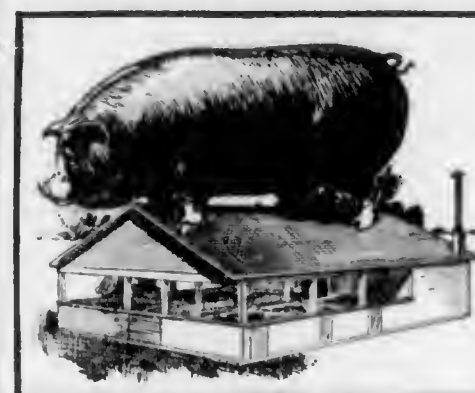
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Household

VEGETABLE SOUPS

By Marion Harris Neil.

A fixed idea, not easy to combat, is that broths and soups are of poor quality, that is, not nourishing, unless they contain meat. Let our readers try one or two soups without meat, and they will be astonished at the sweet flavor, and as much so at the beneficial effect to the system.

The economy of such dishes will be apparent when they find their staying powers are quite as great as those which contain meat. It is a great pity that the value of thick vegetable soups is not more appreciated in the United States than it is, for few things are better, or, indeed, more economical, in the cold weather than thick vegetable purees, etc. Abroad the French and English housekeeper always begins her dinner with soup; it involves but little extra trouble, while it enables her to

water. Put into a soup pot the potatoes, turnip, parsnip, celery and onions, all cut up in small dice, then add the sugar and the butter; put it on the fire to get quite hot. Then add the water, and boil for two hours or until the vegetables are quite soft. Put thru a strainer, using a wooden spoon to press it thru, and return it to the pot with the flour that has been moistened with one cupful of milk. Boil for eight minutes, stirring all the time. The sago may be used instead of the flour; it should be well washed, and moistened in the same way as the flour, and stirred until it boils, then allow it to boil gently until clear. Add the seasonings and serve.

Turnip Soup.—Two cupfuls of hot-mashed turnip, one cupful of hot-mashed potato, two tablespoonfuls of flour, two teaspoonfuls of salt, one-half onion, four cupfuls of scalded milk, four tablespoonfuls of butter and one eighth of a teaspoonful of pepper. Mix turnip, potato and scalded milk. Melt butter, add flour, salt and pepper; when well blended, add turnip mixture and onion cut in small pieces. Cook in

ful of water, two cupfuls of scalded milk, and two tablespoonfuls of flour. Chop enough carrots to make two cupfuls. Cook in water until tender. Press thru a sieve, reserving liquor. Cook rice in butter; add flour and seasonings. Mix carrot mixture with rice and milk and pour onto butter and flour; bring to the boiling point, strain and serve. Garnish with chopped parsley. If the soup is too thick, thin with cream or milk.

Cauliflower Soup.—One medium-sized cauliflower, four cupfuls of cold water, four tablespoonfuls of butter, four tablespoonfuls of flour, two tablespoonfuls of grated cheese, two cupfuls of scalded milk, two teaspoonfuls of salt, two slices of onion, one egg yolk, and a few grains of cayenne. Cook the cauliflower in cold water until tender; drain, press thru a sieve, add the scalded milk. Cook the onion in butter, add flour; when well blended, add the cauliflower mixture and seasonings. Cook five minutes, strain, add yolk of egg slightly beaten, and cheese.

QUICK WAY OF CLEANING SILVER

Place the cleaning grill in the bottom of a tin or galvanized dish. Pour in as many quarts of water as will be necessary to immerse the silver ware. Dissolve one heaping tablespoonful of baking soda and one heaping tablespoonful of salt in each quart of water. Keep the dishpan on the range at boiling point. Place the silver in the pan, resting on the grill, and the tarnish will disappear. Rinse the silver in cold water and wipe off with a dry cloth. Use a toothbrush on chased or carved silver.—Housekeeper.

NEEDLESS FARM DRUDGERY.

In the opinion of President Cook, of the Mississippi Normal College, the first step in the education of the country should be the elimination of needless farm drudgery. No matter how good the rural school may be, he declares, it can not help permanently in making life in the country attractive unless there goes with it the movement to lighten the labor of women on the farm. The water supply, he says, is the cause of nine-tenths of the drudgery of women on the farm.

"The getting of the water from the source of supply to the point of application requires more manual labor than any other item of housekeeping. The water for the kitchen has to be lifted from the well, carried to the kitchen, poured into a kettle, poured out of the kettle into the dishpan, and from the dishpan out of doors. This makes six times the water is handled; and a bucket of water containing two gallons, with the containing vessel, will weigh 20 pounds. When this is handled six times, the total lifting is 120 pounds. The cooking of three meals a day on a meager allowance of water will necessitate ten buckets, which will make for cooking alone 1,200 pounds of lifting per day. When to this is added the water necessary for bathing, scrubbing, and the weekly wash, it will easily bring the lift per day up to a ton; and the lifting of a ton a day will take the elasticity out of a woman's step, the bloom out of her cheek, and the enjoyment from her soul."

To eliminate this item of drudgery is easy, he claims. All that is necessary is for the farmer to realize that the farm is also the heir to modern invention. "An isolated farm can be supplied with a system of waterworks for an outlay of about \$250. A pump, \$25; gasoline engine, \$40; tank, \$20; bathtub, \$20; commode, \$20; kitchen sink, \$4; basin, \$4; 500 feet of pipe, \$40;

double boiler twenty minutes, stirring occasionally; strain and serve.

Water Cress Soup.—Three cupfuls of chopped cress, four tablespoonfuls of butter, two tablespoonfuls of chopped onion, one and one-fourth teaspoonfuls of salt, one cupful of whipped cream, four cupfuls of milk, two tablespoonfuls of flour, one teaspoonful of beef extract, and cayenne and Worcestershire sauce. Cook cress, butter and onion together five minutes; add flour and seasonings. When smooth add milk in which extract has been mixed, cook twenty minutes, strain, serve and garnish with whipped cream.

Tomato Soup.—One can of tomatoes, two slices of onion, two sprigs of parsley, a bit of bay leaf, a few gratings of nutmeg, three tablespoonfuls of butter, two tablespoonfuls of flour, four cupfuls of water, three cloves, and salt and cayenne. Melt butter, add flour. Cook remaining ingredients together twenty minutes. Press thru a sieve and thicken with flour mixture. If tomato lacks flavor, season highly with Worcestershire sauce and tabasco sauce.

Carrot Soup.—Carrots, two slices of onion, a sprig of parsley, one-fourth cupful of rice, four tablespoonfuls of butter, one and one-half teaspoonfuls of salt, a few grains of cayenne, two cup-

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RECIPE FOR CORNED BEEF.

The pieces commonly used for corning are the plate, rump, cross ribs, and brisket, or in other words the cheaper cuts of meat. The loins, ribs, and other fancy cuts are more often used fresh, and since there is more or less waste of nutrients in corning, this is well. The pieces for corning should be cut into convenient-sized joints, say, five or six inches square. It should be the aim to cut them all about the same thickness so that they will make an even layer in the barrel. Meat from fat animals makes choicer corned beef than that from poor animals. When the meat is thoroughly cooled it should be corning as soon as possible, as any delay in the meat is likely to spoil the brine during the corning process. Under no circumstances should the meat be brined while it is frozen.

Weigh out the meat and allow eight pounds of salt to each 100 pounds; sprinkle a layer of salt one-quarter of an inch in depth over the bottom of the barrel; pack in as closely as possible the cuts of meat, making a layer five or six inches in thickness; then put on a layer of salt, following that with another layer of meat; repeat until the meat and salt have all been packed in the barrel, care being used to reserve salt enough for a good layer over the top. After the package has stood over night, add for every 100 pounds of meat, four pounds of sugar, two ounces of baking soda, and four ounces of saltpeter dissolved in a gallon of tepid water. Three gallons of water should be sufficient to cover this quantity. In case more or less than 100 pounds of meat is to be corning, make the brine in the proportion given. Loose board cover, weighted down with a heavy stone or piece of iron, should be put on the meat to keep all of under the brine. In case any should project, rust would start and the brine would spoil in a short time.

It is not necessary to boil the brine except in warm weather. If the meat has been corning during the winter and must be kept into the summer season, it would be well to watch the brine daily during the spring, as it is more likely to spoil at that time than at any other season. If the brine appears to beropy or does not drip freely from the finger when immersed and lifted, it should be turned off and new brine added, after carefully washing the meat. The sugar or molasses in the brine has a tendency to ferment, and the brine is kept in a cool place, where it is sometimes trouble from this cause. The meat should be kept in the brine twenty-eight to forty days, secure thoro corning.—Andrew Ross, Agriculturist, Minnesota University.

BUTTERMILK COOKIES

By Hilda Richmond

Drop Cookies.—Beat together two cups medium brown sugar, one cup molasses, four eggs, one cup buttermilk, one teaspoon of soda dissolved in a little cold water, and enough flour to make a soft dough. Test in a drop, so as not to get too much sugar. Drop in small patties on a greased pan and bake quickly.

Caraway Seed Cookies.—Two cups sugar, one and one-half cup butter, three eggs, one-half cup sour milk, one-half teaspoon soda in a little cold water, one-half teaspoon caraway seeds

and enough flour to make a batter that will roll out. Roll very soft and bake quickly.

Fig Cookies.—One cup butter, one cup brown sugar, one cup molasses, three eggs, one-half cup buttermilk, one-half teaspoon soda, one cup of washed, dried and chopped figs and enough flour to make a soft dough. This dough can be flavored with any desired extract and can be baked in drop cake pans, dropped on a greased dripping pan or rolled like cookies.

Caramel Cookies.—Two cups white sugar, two cups butter, one cup light-colored molasses, four well-beaten eggs, one teaspoon of soda, one cup buttermilk, lemon flavoring or vanilla and flour enough to make a soft dough. Put the dough in the dripping pan in a thin sheet and bake quickly. Cover with a caramel made with two cups of brown sugar, one cup of sweet milk and one tablespoon of butter boiled together till thick. Beat well and spread the caramel on evenly and while warm cut the cake into square cookies with a sharp knife. This saves the trouble of rolling them out, but if shaped cookies are desired they can be rolled and baked and then frosted.

Bachelor Buttons.—Bachelor buttons are just as good for married men as single men. As a busy mother, I give you my word that I find them a great help. Why? If "hubby" loses a button and I am in the midst of "dinner making" or "baby-dressing," I can get him to locate the box—and the button is on that won't come off.—Evelyn Harris.

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Winston of the Prairie

By HAROLD BINDLOSS

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Synopsis of Previous Chapters.

Rancher Winston, the hero of the story, having ridden in from his backwoods clearing to the postoffice in the Canadian settlement in the hope of receiving news of financial assistance to carry on his farming operations, meets only disappointment. Returning on the twenty-mile drive to his cabin in the cold and storm, his horses scare, plunge down an embankment and one of them has to be killed. Lance Courthorne, adventurer, arrives while Winston is meditating over his affairs in his cabin informing Winston during the course of their conversation, that he "is back again with the rustlers."

CHAPTER II.—(Concluded).

Winston's nod signified comprehension, for the struggle between the great ranch-holders across the frontier and the smaller settlers who with legal right invaded their cattle runs was just over. It had been fought out bitterly with dynamite and rifles, and when at last with the aid of the United States cavalry peace was made, sundry broken men and mercenaries who had taken the pay of both parties, seeing their occupation gone, had found a fresh scope for their energies in smuggling liquor, and on opportunity transferring cattle, without their owner's sanction, across the frontier. That was then a prohibition country, and the profits and risks attached to supplying it and the Blackfeet on the reserves with liquor were heavy.

"Business this way," said Winston. Courthorne appeared to consider a moment, and there was a curious little glint in his eyes which did not escape his companion's attention, but he laughed.

"Yes, we're making a big run," he said, then stopped and looked straight at the rancher. "Did it ever strike you, Winston, that you were not unlike me?"

Winston smiled, but made a little gesture of dissent as he returned the other's gaze. They were about the same height and had the same English type of face, while Winston's eyes were gray and his companion's an indefinite blue that approached the former color, but there the resemblance, which was not more than discernible, ended. Winston was quietly spoken and somewhat grim, a plain prairie farmer in appearance, while a vague but recognizable stamp of breeding and distinction still clung to Courthorne. He would have appeared more in place in the States upon the southern Atlantic seaboard, where the characteristics the Cavalier settlers brought with them are not extinct, than he did upon the Canadian prairie. His voice had even in his merriment a little imperious ring, his face was refined as well as sensual, and there was a languid gracefulness in his movements and a hint of pride in his eyes. They, however, lacked the steadiness of Winston's, and there were men who had seen the wild devil that was born in Courthorne look out of them. Winston knew him as a pleasant companion, but surmised from stories he had heard that there were men, and more women, who bitterly rued the trust they had placed in him.

A faint sparkle crept into Winston's eyes. "No," he said dryly. "I scarcely think I am like you, although only last night Nettie at the settlement took me for you. You see, the kind of life I've led out here has set its mark on me, and my folks in the old country were distinctly middle-class people. There is something in heredity."

Courthorne did not parry the unexpected question. "Oh yes," he said, with a sardonic smile. "I know. The backbone of the nation—solemn, virtuous and slow. You're like them, but my folks were different, as you surmise. I don't think they had many estimable qualities from your point of view, but if they did, I don't go quite straight they never went slow, and they had a few prejudices, which is why I found it advisable to leave the old country. Still, I've had my fill of all that life can offer most folks out here, while you scarcely seem to have found virtue pay you. They told me at the settlement things were bad with you."

Winston, who was usually correct in his deductions, surmised that his companion had an object, and expected something in return for this confidence. There was also no need for reticence when every farmer in the district knew all about his affairs, while something urged him to follow Courthorne's lead. "Yes," he said quietly. "They are. You see, when I lost my cattle in the blizzard, I had to sell out or mortgage the place to the hilt, and during the last two years I haven't made the interest. The loan falls due in August, and they're going to foreclose on me."

"Then," said Courthorne, "what is keeping you here when the result of every hour's work you put in will go straight into another man's pocket?"

Winston smiled a little. "In the first place, I've nowhere else to go, and there's something in the feeling that one has held on to the end. Besides, until a few days ago I had a vague hope that by working double tides, I might get another crop in. Somebody might have advanced me a little on it because the mortgage only claims the house and land."

Courthorne looked at him curiously. "No. We are not alike," he said. "There's a slow, stubborn devil in you, Winston, and I think I'd be afraid of you if I ever did you an injury. But go on."

"There's very little more. My team ran away down the ravine, and I had to put one beast out of its misery. I can't do my plowing with one horse, and that leaves me stranded for the want of the dollars to buy another with. It's usually a very little thing that turns the scale, but now the end has come, I don't know that I'm sorry. I've never had a good time, you see, and the struggle was slowly crushing the life out of me."

Winston spoke quietly, without bitterness, but Courthorne, who had never striven at all but stretched out his hand and taken what was offered, the more willingly when it was banded alike by judicial and moral law, dimly understood him. He was a fearless man, but he knew his courage would not have been equal to the strain of that six years' struggle against loneliness, physical fatigue, and adverse seasons, during which disaster followed disaster. He looked at the bronzed farmer as he said, "Still, you would do a little in return for a hundred dollars that would help you to go on with the fight?"

A faint sparkle crept into Winston's eyes. It was not hope, but rather the grim anticipation of the man offered a better weapon when standing with his back to the wall.

"Yes," he said slowly. "I would do almost anything."

"Even if it was against the law?"

Winston sat silent for almost a min-

ute, but there was no indecision in his face, which slightly perplexed Courthorne. "Yes," he said. "Though I kept it while I could, the law was made for the safe-guarding of prosperous men, but with such as I am it is every man for his own hand and the devil to care for the vanquished. Still, there is a reservation."

Courthorne nodded. "It's unlawful, but not against the unwritten code." "Well," said Winston quietly. "When you tell me what you want I should have a better opinion."

Courthorne laughed a little, though there was something unpleasant in his eyes. "When I first came out to this country I should have resented that," he said. "Now, it seems to me that I'm putting too much in your hands if I make the whole thing clear before you commit yourself in any way."

Winston nodded. "In fact, you have got to trust me. You can do so safely."

"The assurance of the guileless is astonishing and occasionally hard to bear," said Courthorne. "Why not reverse the position?"

Winston's gaze was steady, and free from embarrassment. "I am," he said, "waiting for your offer."

"Then," said Courthorne dryly, "here it is. We are running a big load through to the northern settlements and the reserves tomorrow, and while there's a good deal of profit attached to the venture, I have a notion that Sergeant Stimson has had word of it. Now, the Sergeant knows just how I stand with the rustlers though he can fasten no charge on me, and he will have several of his troopers looking out for me. Well, I want one of them to see and follow me south along the Montana trail. There's no horse in the Government service can keep pace with that black of mine, but it would not be difficult to put him and just keep the trooper out of carbine-shot behind. When he finds he can't overtake the black, he'll go off for his comrades, and the boys will run our goods across the river while they're picking up the trail."

"You mentioned the horse, but not yourself," said Winston quietly. Courthorne laughed. "Yes," he said. "I will not be there. I'm offering you one hundred dollars to ride the black for me. You can put my furs on, and anybody who saw you and knew the horse would certify it was me."

"And where will you be?"

"Here," said Courthorne dryly. "The boys will have no use for me until they want a guide, but they'll have an unloaded pack horse handy, and, as it wouldn't suit any of us to make my connection with them too plain, it will be a night or two later when I join them. In the meanwhile your part's quite easy. No trooper could ride you down unless you wanted him to, and you'll ride straight on to Montana—I've a route marked out for you. You'll stop at the places I tell you, and the testimony of anybody who saw you on the black would be quite enough to clear me if Stimson's men are too clever for the boys."

Winston sat still a moment, and it was not avarice which prompted him when he said, "Considering the risk one hundred dollars is very little."

"Of course," said Courthorne. "Still, it isn't worth any more to me, and there will be your expenses. If it doesn't suit you, I will do the thing myself and find the boys another guide."

He spoke indifferently, but Winston was not a fool, and knew that he was lying.

"Turn your face to the light," he said sharply.

A little ominous glint became visible in Courthorne's eyes, and there was just a trace of darker color in his forehead, but Winston saw it and was not astonished. Still, Courthorne did not move. "What made you ask me that?" he said.

Winston watched him closely, but his voice betrayed no special interest as he said, "I fancied I saw a mark across your cheek. It seemed to me that it had been made by a whip."

The deeper tint was more visible on Courthorne's forehead, where the swollen veins showed a trifle, and he appeared to swallow something before he spoke. "Aren't you asking too many questions? What has a mark on my face to do with you?"

"Nothing," said Winston quietly. "Will you go through the conditions again?"

Courthorne nodded. "I pay you one hundred dollars—now," he said. "You ride south tomorrow along the Montana trail and take the risk of the troopers overtaking you. You will remain away a fortnight at my expense, and pass in the meanwhile for me. Then you will return at night as rancher Winston, and keep the whole thing a secret from everybody."

Winston sat silent and very still again for more than a minute. He surmised that the man who made the offer had not told him all and there was more behind, but that was, after all, of no great importance. He was prepared to do a good deal for one hundred dollars, and his bare life of effort and self-denial had grown almost unendurable. He had no nothing to lose, and while some impulse urged him to the venture, he felt that it was possible fate had in store for him something better than he had known in the past. In the meanwhile the cigar he held went out, and the striking of a match as Courthorne lighted another roused him suddenly from the retrospect he was sinking into. The bitter wind still moaned about the ranch, emphasizing its loneliness, and the cedar shingles rattled dolefully overhead, while it seemed that as Winston glanced towards the roof his eyes rested on the suspended piece of rancid pork which, with a little flour and a few potatoes, had during the last few months provided him with sustenance. It was of course a trifle, but it tipped the beam, as trifles often do, and the man who was tired of all it symbolized straightened himself with a little mirthless laugh.

"On your word of honor there is nothing beyond the risk of a few days' detention which can affect me?" he said.

"No," said Courthorne solemnly knowing that he lied. "On my honor. The troopers could only question you. Is it a deal?"

"Yes," said Winston simply, stretching out his hand for the roll of bills that Courthorne flung down on the table, and, while one of the contracting parties knew that the other would regret it bitterly, the bargain was made.

Then Courthorne laughed in his usual indolent fashion as he said, "Well, it's decided, and I don't even ask your word. Tomorrow will see the husk slaughtered off and for a fortnight you'll be Lance Courthorne. I hope you feel equal to playing the role with credit, because I wouldn't entrust my good fame to everybody."

Winston smiled dryly. "I fancy I shall," he said, and long afterwards recalled the words. "You see, I had ambitions in my callow days, and it's not my fault that hitherto I've never had a part to play."

Rancher Winston was, however, wrong in this. He had played the part of an honest man with the courage which had brought him to ruin, but there was now to be a difference.

CHAPTER III.

TROOPER SHANNON'S QUARREL.

There was bitter frost in the darkness

outside when two young men stood talking in the stables of a little outpost lying a long ride back from the settlement in the lonely prairie. One leaned against a manger with a pipe in his hand, while the spotless, softly-gleaming harness hung up behind him showed what his occupation had been. The other stood bolt upright with lips set, and a faint grayness which betokened strong emotion showing through his tan. The lantern above them flickered in the icy draughts, and from out of the shadows beyond its light came the stamping of restless horses and the smell of prairie hay which is pungent with the odors of wild peppermint.

The two lads, and they were very little more, were friends, in spite of the difference in their upbringing, for there are few distinctions between caste and caste in that country where manhood is still esteemed the greatest thing, and the primitive virtues count for more than wealth or intellect. Courage and endurance still command respect in the new Northwest, and that both the lads possessed them was made evident by the fact that they were troopers of the Northwest police, a force of splendid cavalry whose duty it is to patrol the wilderness at all seasons and in all weathers, under scorching sun and in blind night snow.

The men who keep the peace of the prairie are taught what heat and thirst are, when they ride in couples through a desolate waste wherein there is only bitter water, parched by pitiless sunrays and whitened by the intolerable dust of alkali. They also discover just how much cold the human frame can endure, when they lie down with only the stars above them, long leagues from the nearest outpost, in a trench scooped in the snow, and they know how near one may come to suffocation and yet live through the grass fires' blinding smoke. It happens now and then that two who have answered to the last roster in the icy darkness do not awaken when the lingering dawn breaks across the great white waste, and only the coyote knows their resting place, but the watch and ward is kept, and the

lonely settler dwells as safe in the wilderness as he would in an English town.

Trooper Shannon was an Irishman from the bush of Ontario; Trooper Payne, English, and a scion of a somewhat distinguished family in the old country, but while he told nobody why he left it suddenly, nobody thought of asking him. He was known to be a bold rider and careful of his beast, and that was sufficient for his comrades and the keen-eyed Sergeant Stimson. He glanced at his companion thoughtfully as he said, "She was a pretty girl. You knew her in Ontario?"

Shannon's hands trembled a little. "Sure," he said, "Larry's place was just a mile beyond our clearing, and there was never a bonnier thing than Ailly Blake came out from the old country—but is it need there is for talking when ye've seen her? There was once I watched her smile at ye with the black eyes that would have melted the heart out of any man. Waking and sleeping they're with me still."

Three generations of the Shannons had been the lonely clearing further into the bush of Ontario and married the daughters of the soil, but the Celtic strain, it was evident, had not run out yet. Payne, however, came of English stock, and expressed himself differently. "It was a shame," he said. "Of course he thung her over. I think you saw him, Pat?"

Shannon's face grew grayer, and he quivered visibly as his passion shook him, while Payne felt his own blood pulse faster as he remembered the graceful dark-eyed girl who had given him and his comrade many a welcome meal when their duty took them near her brother's homestead. That was, however, before one black day for Ailly and Larry Blake when Lance Courthorne also rode that way.

"Yes," said the lad from Ontario. "I was driving in for the stores when I met him in the willow bluff, an' Courthorne pulls his divil of a black horse up with a little ugly smile on the lips of him when I swung the wagon right across the trail."

"That's not civil, trooper," says he. "I'm wanting a word," says I, with the black hate choking me at the sight of him. 'What have ye done with Ailly?'

'Is it anything to you?' says he. 'It's everything,' says I. 'And if ye will not tell me I'll tear it out of ye.'

'Courthorne laughs a little, but I saw the divil in his eyes. 'I don't think ye're quite man enough,' says he, sitting very quiet on the big black horse. 'Any way, I can't tell you where she is just now 'cause she left the dancing saloon she was in down in Montana when I last saw her.'

'I had the big whip that day, and I forgot everything as I heard the hiss of it round my shoulder. It came home across the ugly face of him, and then I flung it down and grabbed the carbine as he swung the black round with one hand fumbling in his jacket. It came out empty, an' we sat there a moment, the two of us. Courthorne white as death, his eyes like burning coals, and the fingers of me trembling on the carbine. Sorrow on the man that he hadn't a pistol or I'd have sent the black soul of him to the divil it came from.'

The lad panted, and Payne, who had guessed at his hopeless devotion to the girl who had listened to Courthorne, made a gesture of disapproval that was tempered by sympathy. It was for her sake, he fancied, Shannon had left the Ontario clearing and followed Larry Blake to the West.

"I'm glad he hadn't, Pat," said Payne. "What was the end of it?"

"I remembered," said the other with a groan, "remembered I was Trooper Shannon, an' dropped the carbine into the wagon. Courthorne wheels the black horse round, an' I saw the red line across the face of him."

"You'll be sorry for this, my lad," says he.

"He's a dangerous man," Payne said, thoughtfully. "Pat, you came near being a ——— that day. Any way, it's time we went in, and as Larry's

here I shouldn't wonder if we saw Courthorne again before the morning."

The icy cold went through them to the bone as they left the stables, and it was a relief to enter the lighthouse which was heated to lustiness by the glowing stove. A lamp hung from a rough birch beam, and its uncertain radiance showed motionless figures wrapped in blankets in the bunks round the walls. Two men were, however, dressing, and one already in uniform sat at a table talking to another swathed in furs, who was from his appearance a prairie farmer. The man at the table was lean and weather-bronzed, with grizzled hair and observant eyes. They were fixed steadily upon the farmer, who knew that very little which happened upon the prairie escaped the vigilance of Sergeant Stimson.

"It's straight talk you're giving me, Larry? What do you figure on making by it?" he said.

The farmer laughed mirthlessly. "Not much, any way, beyond the chance of getting a bullet in me back or me best steer lifted one dark night. 'Tis not forgiving the rustlers are, and Courthorne's the divil," he said. "But listen now, Sergeant, I've told ye where he is, and if ye're not fit to corral him I'll ride him down myself."

Sergeant Stimson wrinkled his forehead. "If anybody knows what they're after, it should be you," he said, watching the man out of the corner of his eyes. "Still, I'm a little worried as to why, when you'll get nothing for it, you're anxious to serve the State."

The farmer clenched a big hand. "Sergeant, you that knows everything, will ye drive me mad—an' to ——— with the state!" he said. "Sure, it's gospel I'm telling ye, an', as you're knowing well, it's me could tell where the boys who ride at midnight drop many a keg. Well, if ye will have your reason, it was Courthorne who put the black shame on me an' mine."

Sergeant Stimson nodded, for he had already suspected this.

(To be continued.)



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"Boine,"	Clarence F. Busck, Adams Co., Indiana.	Alfred H. Brown, Fulton Co., Montana.	"Bob,"	John B. Corn, Jr., Pulaski Co., Arkansas.	
"Poppy,"	Stan C. Werten, Carbon Co., Pennsylvania.	Clarence Grover, Polk Co., Minnesota.	"Tramp,"	Keith Walker, Juneau Co., Wisconsin.	
"Jim,"	John Edwards, Barton Co., Kansas.	"Patsy,"	Rena Smith, Lawrence Co., New York.	"Early Bird,"	Charles W. Schuchert, Adams Co., Nebraska.
"Buz,"	John H. Albrecht, Jr., Camden Co., New Jersey.	"Hill,"	Paul McLaren, Moore Co., South Dakota.	"Harold Cuck,"	Harold Cuck, Jefferson Co., Kentucky.
"Bert,"	Frank C. Smith, Madison Co., Wisconsin.	"Long,"	John L. Allen, Bedford Co., Virginia.	"Bub,"	Eugene Mumpwer, Humboldt Co., N. Carolina.
"Pippin,"	Doris Navarrete, Fairfield Co., Connecticut.	"Sonny,"	Elmer Hot, Allamakee Co., Iowa.	"Cling,"	Janette Lansing, Franklin Co., Vermont.
"Jean,"	John H. Elrod, Smith Co., Tennessee.	"Fritzie,"	Mario and Margie Parker, Knox Co., Illinois.	"Cub,"	Charles F. McCoy, Story Co., Iowa.
"Explains,"	John H. Elrod, Smith Co., Tennessee.	"Bum,"	George F. Taborin, Mercer Co., West Virginia.	"Foxy,"	Lloyd Thomas, Allen Co., Ohio.
"Red,"	Eldon Greer, Madison Co., Ohio.	"Mac,"	Ruth Med, Saline Co., Missouri.		

THIS PONY FREE

**A DAUGHTER OF A PRIZE PONY WE GAVE
TO ONE OF OUR CLUB MEMBERS**

**A DAUGHTER OF A PRIZE PONY WE GAVE
TO ONE OF OUR CLUB MEMBERS**

**This is "Beauty"
and Her Elegant Outfit**



THE CLUB
"Beauty" is a
buggy, har-
buggy is a
riding pony
some nicks
"Beauty" is
Shetland Pon-
male saddle
bridle com-
The bridle
ever saw or
ally for a
Lodge, Mon-

land Ponies to
buy ponies of
them when they
to new members
ever heard of a
you? Our club
for every boy
and us your name
money, not even
have as good a
"Beauty" and
so we can buy a

THE OUTFIT was second "Beauty" is the finest and most complete pony outfit that money can buy. The buggy, harness, saddle and bridle. The buggy is about the prettiest and the harness is a new, well made and the bridle is some nickel trimmed harness set of "Beauty" and the saddle is a new Shetland Pony harness. Then the hair made saddle and red Indian horse bridle. Beauty is a beautiful horse. The bridle is the most beautiful one I have ever saw or heard of. It is made of the pony, made in the state of Idaho, Montana, and it takes him and his partner in the outfit. Beauty will weave it out of beautifully colored horse hair—red, blue, green, black, and white and yellow—woven into remarkable Indian designs and mounted with a new set of harness, leashes and the horse hair reins ending in a new set of reins and a new set of reins. No matter how nice a child's parents might be, they could not get a more handsome pony or more complete outfit than "Beauty" and "Beauty" which we will send free to some lucky member of our Shetland Pony club.

THE FARMER'S WIFE PONY CLUB
570 WEBB BLDG., ST. PAUL, MINN.

I want to be a member of your Shetland Pony Club. Please send me pictures of "Beauty" and the romantic story of her life. Also tell me how to take care of Shetland Ponies. I haven't any pony and want to own "Beauty."

Beauty, 3 Weeks Old

Name.....

R. F. D.

P. O. _____ State _____

GOOD FOR 1,000 VOTES FOR "BEAUTY"

As soon as we hear from you we will explain our Pony Club plan and tell you how to go ahead and get "Beauty." This darling little pony—whose "Mama-Pony," "Evangeline," we gave to Gladys Houx (picture of whom you will see on the lower right hand corner of this page), is surely going to some new member of our Pony Club who has never yet received a pony. Don't let anybody persuade you that you cannot become the proud owner of "Beauty" because our plan of giving away ponies is different from the one that has been in vogue for years. We have Pony Club members all over the United States, from the state of Vermont to the state of Washington, is proof that we do as we say. The Webb Publishing Co., publishers of *The Farmer's Wife*, has been established for 30 years and is one of the largest publishing firms in the United States, so your bank or postmaster will tell you that we can well afford to give away ponies to boys and girls who are members of our Shetland Pony Club. We have no parents who never heard of a pony, and we never heard of a child until they wrote and told us they wanted a pony, so you should send us your name and address at once to join the Pony Club if you want us to send you "Beauty."

Every single child who becomes a member of our Pony Club will receive a hand book full of his own choosing. Besides "Bony" and "My Outfit" and the Big Summer have for you will give Bicycles, Diamond Rings, Sewing Machines, Rifles, Cameras, Gold Watches, Music Cabinets and many other wonderful things that you never could get until now. We would like to give prizes to every boy and girl but we can only reward the few who send us their names and become members of our Sheldahl Pony Club and one of us surely got daring. It is "Bony" and her whole Outfit, so be sure to send us your name now before it is too late.

BE SURE TO ADDRESS YOUR POST CARD OR ENVELOPE TO
The Farmer's Wife Pony Club,
 570 WEBB BUILDING, ST. PAUL, MINNESOTA

Gladys, "Evangeline" and "Beauty"

[illegible]

VOL. 34.—No. 14

About twenty-one years ago, three practical-minded farmers in southern York County, Pennsylvania, met at a cross-roads at the close of a summer's day. It was at the end of the harvest season, and responding to the inclination to talk over the summer's work, they found a seat on the top of an old "worm fence," and there discussed crops, methods and conditions, far into the evening. It was time snatched from busy duties, but the result of that waste-day conference was the beginning of the organization of a farmers' club, which today has a record of accomplishment that can challenge that of any

A York County Example.

understood that a neighborly survey of the host's farm, a general discussion of methods and results and a dinner were to be the principal features of every meeting. The results of this arrangement have been so generally satisfactory that few changes have been found necessary, and the club continues to meet once a month in the same way and for the same general purposes. The visits to the farm of each member have proved to be of the greatest practical value,

at one of the club meetings, and this led up to a public meeting at which stock was subscribed, an organization was completed and the preliminary work of construction was begun. The nine miles of railroad running eastward from Stewartstown, the New Park and Fawn Grove were thus built by the people of the section traversed, and an outlet for the products of the community was afforded. The people own the equipment, hire the train crews and supervise the general operation of the road. It is a splendid example of what may be accomplished by the

other similar organization in the state if not in the entire country.

These farmers caught a glimpse of the mutual advantages of occasionally meeting together for the exchange of ideas and comparison of experiences. They had profited by their chance meeting, and found it is the first principle of all practical co-operative organizations—the principle of self help, thru mutual help. The suggestion was made that regular meetings with a larger body of neighbors be provided for. The result was the organization of the Norrisville Farmers' Club, which has been in continuous existence since that time.

Norrisville is located just south of the Maryland line, and at the time of the organization of the club was a small village with indifferent markets and even poorer transportation facilities. The farmers comprising the club membership came from both sides of the state line, but all were farming what was known at one time as the York County Barrens. The pioneers in this organization were confronted with as many and as varied problems as are to be found in any country community. There was need for concerted action and united sentiment in the solution of those problems; and the story of how the "barrens" were transformed into one of the most productive sections of the state, how market and transportation facilities have been improved and how a high standard of social and community life has been developed, is largely the story of the growth and activity of the Farmers' Club.

The early organization was extremely simple in form and unpretentious in announced purposes. The members were merely a group of progressive and enterprising farmers who found enjoyment in maintaining a pleasant social relationship between each other as neighbors, and who were able, as the association suggested mutual needs, to harmonize effort and place the power of combined influence behind every desired improvement. This seems like a simple undertaking, but is in reality one of the most difficult things to accomplish. The fact that this club has been able to maintain the fundamental spirit of co-operation for a period of twenty years, and accomplish what it has in that time, indicates a quality of harmony and real diplomacy which is as rare as it is valuable. It established the basis for successful co-operation first thru a mutual understanding of each other, and we suspect that this is one of the most valuable lessons to be drawn from this organization and its work.

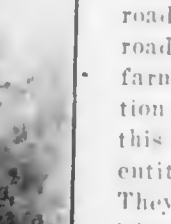
The original plans provided merely for periodical meetings at the homes of the various members. No programs were arranged for, but it was mutually

TOWNSHIP HIGH SCHOOL AT NEW PARK.

From them have been suggested the various methods in farm practice which have contributed to the increased prosperity of the individual members and a higher standard of farming in the community; also the specific needs of the community which required consideration. Perhaps the greatest community accomplishment which was worked out under the influence and guidance of the club was in the building of a railroad thru the neighborhood and connecting with another branch, nine miles away. This road

at one of the club meetings, and this led up to public meeting at which stock was subscribed, a organization was completed and the preliminary work of construction was begun. The nine miles of railroad running eastward from Stewartstown, through New Park and Fawn Grove were thus built by the people of the section traversed, and an outlet for the products of the community was afforded. The people own the equipment, hire the train crews and supervise the general operation of the road. It is a splendid example of what may be accomplished when an entire community unites in a common cause under efficient leadership.

Early in the existence of the club, the members began the study of results from various brands of fertilizers. This study led to a general knowledge of fertilizer constituents and values. Soon the members were giving increased attention to the statement of analysis on the fertilizer sacks; then to the market price of fertilizer ingredients and later to the combinations of ingredients which were giving best results under local conditions and with various crops. Some made a study of the advantages of home-mixing of fertilizers, and purchased the raw materials and mixed their own goods. As a result of this activity it was soon learned that the club members were buying a popular brand of 2-8-2 goods for \$10 per ton, while farmers, not so well posted or not so discriminating, at near-by markets, were paying \$20 per ton for the same goods. Those who were mixing their own fertilizers were getting practically the same brand of goods for \$16 per ton. Thus, while the club has never purchased a ton of fertilizer as an organization, it is estimated that the club membership has saved many thousands of dollars in fertilizer bills merely thru better knowledge of how and what to buy, gained thru the club activities.



AIR.

six miles of macadam road was built where it is actually needed and used by farmers.

For many years the club has held two annual events, which have come to be established features in the community as well as in the club life. One of these is the annual Strawberry Feast, held the first Saturday of every June. This is the one meeting of the year for which outside speakers are secured. Some of the best known agricultural authorities of

ENTRANCE TO PEN-MAR FAIR GROUNDS, AT 1913 FAIR

the state and country have been called to these meetings, and the occasion has been made one of the most profitable as well as enjoyable of all of the club functions.

The greatest event, however, and one that best indicates the quality and extent of the club's influence over the territory which it covers, is the annual Pen-Mar Picnic, held at Fawn Grove. This started as a small farmers' picnic in the early history of the club with no purpose further than providing a holiday occasion for members and neighbors. Later, exhibits of farm products were made, and under the stimulus of competition thus provided, it has grown to the proportions of an agricultural fair, closely approaching our best county fairs and far surpassing the majority of independent fairs. The attendance runs as high as 10,000 on the mid-week days each year, and its exhibits are probably as well balanced as to classes and varieties of products shown as any county fair in the state.

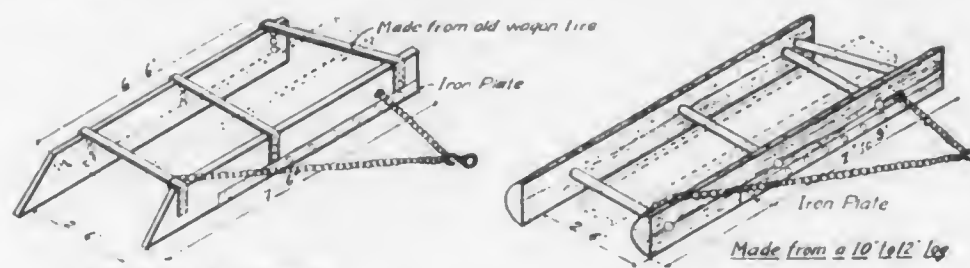
At the fair this year there were 59 entries of grains, seeds and hay, 70 of vegetables, 85 of fruit, 33 head of horses, and 25 of cattle (mostly dairy). There were about 550 plates of fruit and vegetables, which, for so early in the season, would challenge competition with any section of the state. As indicating the part the ladies have been taking in the club activities, the fair is always strong in the exhibits of household and culinary products, in striking contrast to the majority of the county fairs. At this year's fair there were nearly 600 entries of preserves, jellies, bread, rolls, quilts, fancy work, etc. Competent judges are provided in all departments, and competition is keen. The merchants and manufacturers of the near-by cities have come to regard this fair as one of the most profitable at which to exhibit, indicating the general prosperity and standard of the community. The illustrations accompanying this year's fair show a part of this year's gathering, and the parked automobiles are a fair indication of the character of the attendance and the prosperity of the community.

This annual picnic has come to be the greatest source of revenue which the club has. The annual dues are only 50 cents per year, but a uniform admission charge of 10 cents is made at the picnic. Nearly half of the money from this source is paid to the owner of the grove in which the picnic is held, but from the surplus, after all expenses are met, the club has been able to make a number of substantial donations to various public enterprises. About \$500 is spent in premiums at the fair each year, and in addition the club has paid in about \$300 for local road improvement, holds stock in the farmers' railroad, has a bank account of close to \$1,000, and has made other improvements.

With the growth of the picnic and other activities, it was found advisable to incorporate under the laws of the state. The club is now known as the Pen-Mar Agricultural Association, the name suggesting the combination of Pennsylvania and Maryland residents in the club membership. In 1909, the ladies organized an auxiliary association. This move was in nowise a suggestion of divorce from the "sterner set," as the auxiliary continues to hold meetings at the same time and place as the men's club, but it has separate programs and discusses questions of particular interest to its side of the farm partnership. The ladies take an active part in all club activities. They are given a certain sum of money for each year's fair, and arrange their own lists of awards, classes of exhibits, etc., and they have already demonstrated their ability as fair managers. The ladies naturally lead in the purely social work of the club, but they are also profiting by the practical

and technical work of their organization in the study of home economics and general home making—and there is not a suffragette among them.

We have enumerated a few of the most important features in community development which have come as a direct result of the work of this club. To appreciate its full influence in the countless little things which contribute to rural prosperity and happiness, one must visit the locality and meet the members in their homes and in their community gatherings. The standard of farming is as high as can be found in the state. A township high school was organized two years ago, and the comfortable building shown on the first page was built. The community has one of the neatest and most comfortable rural churches to be found anywhere and a strong, active church organization. A



THE KING ROAD DRAG.

rural cemetery organization has charge of the local cemetery, and its well-kept lawns and shrubbery are in striking contrast to those seen in most country cemeteries. While organized marketing has never been undertaken, the community is well favored with local markets and has never felt the need of forceful efforts to secure reasonable concessions. Just to what extent the presence of the organization is responsible for this condition can not be stated. The people are proud of the things accomplished and are firm in their faith in the future of their community and their industry.

How much of this is worth while? The answer is found in the spirit of local patriotism which prevades the neighborhood. Some one has said that when our rural schools, churches, roads, and other social comforts and conveniences are developed to such a point that we can hold our standard people on the farms, instead of having them retire to the cities, and thus desert the industry



AN EVIDENCE OF PROSPERITY, AUTOMOBILES BANKED AT PEN-MAR FARMERS' PICNIC.

which has given them their prosperity, our so-called rural problem will be solved. This is the condition which these Pen-Mar farmers are rapidly developing, and they are doing it largely thru community co-operation and enterprise.—Arthur J. Anderson.

GOOD ROADS FROM KING DRAG.

D. Ward King told the farmers some plain facts about road making with the "split-log drag," when he addressed an audience of about 150 farmers and business men at Washington, Pa., September 6. In leading up to the subject at the present time, the speaker explained

the conditions out of which this system of road making developed. The plan worked out by him in Missouri was due to several things. He had moved to a farm twenty miles from the railroad, where settlers were few and money to make the roads was scarce. Consequently any system adopted must be one of low cost. He dropped the suggestions that the East expects to spend more money for road building as they have more money, and that they also ordinarily spend \$10 to get \$5 worth of results.

During Mr. King's first three-year residence in Missouri the roads began to get bad, due to the railroads coming within three miles of his farm, and the road being fenced, forcing all to travel in one track. In that country there is no stone for use in road making, and any use for this purpose would have to be shipped in 75 or 80 miles. The

settlers could not see their way to shipping stone in to make roads under those conditions. Finally, in 1896, Mr. King started dragging a half mile of road from his farm to his neighbor's with a pump stalk and an old fence post, nailed together with six-inch fence boards, hitching to this so that the drag followed at an angle of about 45 degrees. He was particular to drag this road when the ground was moist; not wet, so as to smear, but simply moist so the ground was spread ahead of the drag. When winter came he put the drag away and it took two winters before he learned how much good the drag would do by using it in the winter at favorable times. When this outfit wore out, and he put it in the trash pile, he found a seven-foot elder log lying there. This was made into a drag and did service for years afterwards.

At this point Mr. King dropped his narrative long enough to make the telling statement, "That what we need to make good roads is men. Because good

making a slighting remark about his piece of road.

Here again Mr. King dropped a pertinent remark, as follows: "Money is not what is needed so much as interest. If the farmers get interested in their roads, they will develop a pride in them and have good roads." After dragging the road from 1896 to 1910 after each rain or wet spell he had developed an impervious roadbed. In the spring of 1910, he dragged his piece of road on February 4, when there was two or three feet of snow in the ditch. The next day this piece of road was dry, while neighboring roads that had not been dragged were wet from four to six weeks. This piece of road having been dragged for sixteen years had had one impervious layer after another formed until after the time of dragging in 1910 there were probably 12 to 18 inches of impervious roadbed, upon which water had not been allowed to stand.

In Iowa they give \$3.25 as the cost per mile per year for dragging the road. His formula for making good roads without much money is to go home and build a road drag, and then drag once after each wet spell, when the ground is moist, but not sticky. After 4, 5 or 6 draggings the middle of the road will be the highest, and after that it may be necessary to drag the dirt out to the edge about every third time. A man who digs up the surface of a road and puts 6 to 12 inches of loose dirt in the center of the road is committing a crime. The exception was raised that it took too much time to drag the roads, to which Mr. King replied that "the farmer would save enough time by having good roads to travel over to do the dragging, besides the satisfaction and comfort of having good roads to travel on."

In conclusion, the point was emphasized that it was the doing of things that made good roads, the being willing to do a little more than the law required; rather than sitting back and saying, "Well, I pay my road taxes, let the supervisors make the roads." At the close of the talk the audience seemed greatly interested and convinced of the practical use of the "split-log drag," and it was decided to hold a series of meetings in Washington County some time in October to explain the use of this drag, and create more interest thruout the county.—J. M. M. Kew, Washington County Agriculturist.

VARIETY TESTS WITH WHEAT.

The agricultural high school tests of varieties of wheat in Baltimore County, Md., have given some interesting results. This was the first year of the test, but results have met with such wide-spread interest that they are certain to be continued. The different varieties planted were given the same treatment that the farmers of the community gave their regular seedlings. A rather poor piece of ground was selected and fertilized with only 150 pounds per acre of a medium grade of fertilizer. Every plot received the same kind of treatment, and yields were carefully computed. The resulting yields per acre were as follows:

Variety.	Yield.
Currell's Prolific	13.6
Dietz's Longberry	18.6
Silver Sheaf Longberry	19.0
Dawson's Golden Chaff	17.8
Unknown (local variety)	12.8
Fulco-Mediterranean	14.6
Virginia Hybrid	22.3
China	18.7
Martin's Amber	15.1
Mammoth Red	24.4
Indiana Red Wave	13.0

It will be noted that there was a difference of 11.6 bushels per acre between the lowest and the highest yields; also that the one variety submitted

by the local farmer and in general use in the community gave the lowest yield. It is planned to continue the test for a series of years until the full value of each variety under local conditions has been determined. Farmers will co-operate in the test next year by sowing test acres of those varieties which showed best yields this season.

Our Farm Counselor

By R. P. Kester, Penna. Farm Advisor on Soils and Crops.

"Hitting the Pace."

The superintendent of a big machine shop said, in conversation the other day, that one reason why many farmers do not succeed better is that they idle away too much time. They work too leisurely. They complain of long hours, and long hours are necessary because the pace is too slow.

This should be considered a commendation rather than a criticism. I hope the time will never come when farmers will work under the high pressure the tradesmen and business men find necessary in order to succeed. An experienced and intelligent physician told me the other day that it is becoming more and more recognized among medical men that the two greatest causes of death and failure among Americans are acute indigestion and neuritis. True, other names are often given in the death certificates and other causes of crime named in police records, but back of all are these two diseases, both the result of hurry and worry and fast living.

The farmer may find his pleasure as he goes along—in his work. He has at all times what the city man has in anticipation—leisure, independence and the benign influence of a Divine environment. It is not a fault, but a blessed privilege to be able to stop work and lean on the line fence and chat with a neighbor; or to halt the team in the furrow and sit on the plow-ham, or walk over the fields and talk of the crops, politics, religion—anything. In all my travels I have never yet seen the sign, "No Admittance Except on Business," on the door of a farm home or on a farm yard gate.

No, the farmer does not need to work harder nor faster—possibly more intelligently. But if he would keep "what all the world's a-seeing," he must maintain that poise of mind and body for which he is now criticised, yet enriched. Farming is more than a business. It is a life. A mine, a factory, a railroad is successful only when it makes money. Nothing else is demanded. The farm also should make a profit, but if that is all it produces, it is a failure. Depth of Fall Plowing.—W. T. C. asks about the relative depths of plowing soil land for corn in fall and in spring.—There are good many "ifs" in questions of agricultural practice, yet I will say that in most instances we may plow the same soil two inches deeper in fall than in the spring. An article in last week's issue gives the reasons for this. Too few farmers vary the depths of plowing. The depth should vary with each crop. When land is always plowed at the same depth, an artificial hard-pan is often formed by the tramping of the team and man and the weight of the plow so that it becomes partially impervious to water. Deeper plowing is one means of increasing production at little expense.

The Rural Schools.—"Train up a child in the way he should go, and when he is old he will not depart from it," is an old, old maxim, yet one much undervalued. However important are the activities of men in art, commerce or agriculture, the most important duty of any generation is the training and education of the children of that generation. No achievement of success or accumulation of fortune will make amends for neglect of that duty.

Probably most of us will assent to this proposition in the abstract, yet we go on living and acting as if the raising of corn, the breeding of hogs and the feeding of cattle were worthy of our best thought and endeavor; living as if we believed that legacy of worldly goods was a safer provision for our children than a well-trained mind in a well-trained, healthy body. The rural school is more nearly the same as it was fifty years ago, on the average, than any other rural institution. The home, the farm equipment, the social practices have all changed more than the equipment and efficiency of the school for farmers' children.

Saving Seed.—The practice of saving farm and garden seeds is not so general among farmers as it should be. The yield of almost all crops may be increased by judicious selection of seed. Not only may quantity be increased, but quality and flavor are susceptible of improvement by selection.

Specimens should be selected from the plant before the general harvest. It is very necessary to know the character of the parent plant or stalk. Selecting promiscuously from a quantity is not likely to make any improvement. The stalk upon which an ear of corn grows is quite as important as the ear itself, when considering it for seed. Seed potatoes should be selected at the time of digging. It pays to go thru the field with a potato hook and basket, selecting likely-looking hills, and if found to be heavy yielders, save them. Plants growing side by side vary in quantity of potatoes 25 to 75 percent. Even a small potato from a good-yielding hill is worth more for seed than a large potato from a low-yielding hill. The yielding quality is in the plant, not in the individual potato, and all the potatoes from one plant have, in a measure, the same potential power to reproduce themselves. The same may be said of tomatoes, melons, peas, etc. Select all seeds in the field from the plants producing them.

Storing Potatoes.—A. B. S.—Potatoes should be hauled from the field to some dark, temporary quarters before finally storing for the winter. Many potato raisers say this pays because potatoes heat and sweat more or less when put in piles, and it is well to have them go thru this process and become dry before final storing. Altho it requires more handling, the danger from rot is less and the sorting and grading can be done at the second handling. The ground floor of a wagon-shed or a barn cellar is a good place for this purpose. Of course, the seed potatoes were selected before the general digging, and they will be stored or buried in a way to prevent their sprouting before planting time.—R. P. K.

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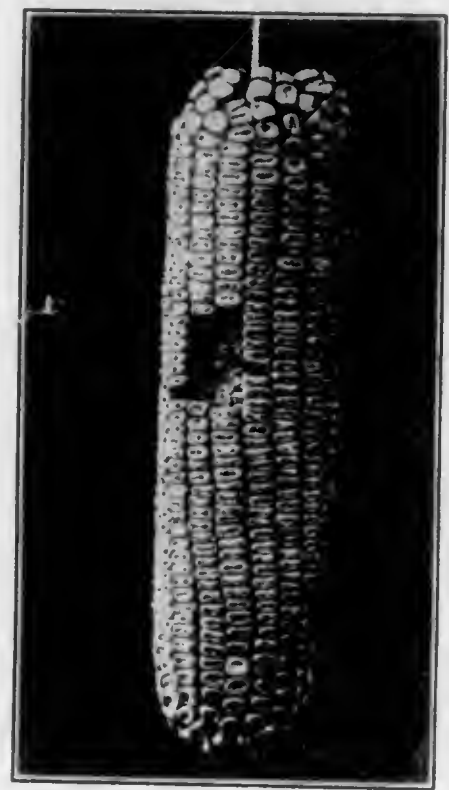
WHEAT ON CORN GROUND.

As compared to the method outlined in this paper recently by Mr. Ingham, the sowing of wheat on corn ground is much simplified. In this part of Ohio, 99 percent of all wheat raised is sown on corn ground. The corn is always shocked in the field; sometimes being cut 12 hills square, the spaces between the shocks in the row being sown by "weaving," or turning in and out with the drill; however, many farmers cut the corn "4 by 24," leaving very wide spaces between the rows. No farmer ever thinks of plowing this ground, but merely disks and harrows it; I never saw a farmer plow this corn ground for wheat, and never thought of plowing it until Mr. Ingham told of his experience. Farmers here prefer a firm

seed bed for wheat, and late plowing does not give time to accomplish this condition.—George P. Williams, Delaware Co., O.

A CHAMPION EAR.

The accompanying illustration shows the ear of corn that won first or championship for northeastern United States, at the National Corn Show of 1913. The ear is 9 inches long and measures just a little over 7 inches around, about one-third of the way back from the tip. The kernels average 7 to an inch, one-half inch deep and three-eighths inches long. The ear was grown by Mr. Pusey Cloud, of West Chester. It won first prize at State College, Harrisburg, and the National Corn Shows. The ear will be planted; that is, one-half was shelled and planted this year and one-half next year. The half planted this year was planted in a single row, side by side with other good looking ears. Then the seed will be saved from



NATIONAL CHAMPION EAR FOR NORTHEASTERN UNITED STATES 1913.

the heavy yielders, the low yielders will be discarded and only the halves saved from those that prove to be heavy yielders will be planted next year.

This ear, from outside appearances, is not better than other ears, but if one will note the large deep germ, the splendid broad kernels at the tip, the heavy packing of corn in the ear at the cob and the exceedingly light amount of crown starch, together with the heavy amount of horny starch, he can easily understand how this ear came to be a national champion. This ear, pound for pound, is worth double the ordinary corn for feeding purposes. The ear looks small and yet weighs a pound, which would give up a yield of over 140 bushels to the acre, providing we could get three like this in each hill. The average yield in Pennsylvania is 42 bushels, and that means that we are not getting an average of one ear as large as this to a hill.

Perhaps the kernels at the butt look pretty rough, and yet we must remember that we have to shell off only three rows to come to kernels that a planter will plant.—A. D. Cromwell, Chester Co., Pa.

NEW JERSEY FARM PAYS GOOD RETURNS.

If the several departments at the New Jersey College Farm, at New Brunswick, were conducted upon a purely commercial basis and not in connection with experimental work, the annual return to the state treasury would exceed \$25,000.

The horticultural department has brought in a return of \$9,000, chiefly

thru experiments in peach growing. The state has eleven or twelve acres in peach orchards, the ground being rented by the year. Some of this land in South Jersey was not paying the rental price. Corn would not grow on it high enough to produce ears, so as an experiment some of it was rented to show that an orchard, properly set out and managed, could be made profitable.

Different parts of the state were selected to show that they would yield good peach crops. The peaches grown in the state last year sold at from \$1.65 a crate up, while Oklahoma fruit brought here in iced cars sold for only \$1.10. The cost of carriage on the latter was 86 cents; that on the College Farm fruit was but 11 cents. The experiments along this line will be completed in a year or two, the orchards having been laid out six years ago. Another source of income in this department was from the sale of roses and carnations grown in the greenhouses at the College Farm. From this source the state received \$2,000.

During the year 4,000 chicks were hatched, and the money from the sale of eggs and birds amounted to about \$4,000. Several kinds of chickens were kept at the farm. Dr. Jacob G. Lipman, director, says if this department was run merely as a money-making venture some of the breeds, such as the Langshan, would not be kept and only the money producers would be raised. In the swine department the pork products brought in 3,000, and in the dairy department the revenue was \$9,000, mostly from the sale of milk.—D. T. Hendrickson, Monmouth Co., N. J.

LIFE OF UNTREATED POSTS.

The life of untreated posts depends on so many conditions—species, age, rate of growth, percentage of sapwood, character of soil and amount of moisture present—that it cannot be estimated definitely. Some will last for many years in contact with the soil, others will rot before they are seasoned.

The following table shows, approximately, the average life of air-dried fence posts of various species:

No.	Years
Red cedar (Juniperus virginiana)	30
Black (or yellow) locust (Robinia pseudoacacia)	20 to 25
Catalpa (Catalpa speciosa)	20
White oak (Quercus alba)	15
Black walnut (Juglans nigra)	5
White cedar (Thuja occidentalis) round	15
Tamarack (Larix laricina)	10
Red elm (Ulmus rubescens)	8
White elm (Ulmus americana)	6
White willow (Salix alba)	4 to 5
Ash, maple, red and black oaks	3 to 5
Birch, basswood, jack pine	3 to 5
Cottonwood, aspen	3 to 5

Most of the posts on the market are taken from the first seven species on the list. The better posts at higher prices are cheaper in the end.

Potato Tuber Diseases.—Farmers' Bulletin No. 544, mailed from Washington, dealing with potato diseases, is of special interest to the potato grower. The bulletin states that "the average yield per acre of potatoes in the United States is not more than half what might reasonably be expected," attributing this fact, among other things, to numerous diseases. Significant also is the statement: "Potato diseases constitute an exceedingly important factor in American potato culture, and require every grower who aims toward a high standard to exercise the closest watchfulness, not only at the time of planting, but during growing, harvesting and storing."

Horticulture

STORAGE OF SWEET POTATOES.

"Will it be more profitable for me to store my crop of sweet potatoes, or should I market it as soon as harvested?" That is the question that many a sweet potato grower is asking himself this season of the year. And it is a question that no one can answer definitely but the grower; for so much depends upon him and the ever-varying local conditions that confront him. As a general rule, however, it pays to store, or, at least, it has paid in the past 25 years if one takes the average of that period into consideration, that is, when the sweet potatoes kept fairly well. And after all, the question as to whether it pays to store, depends more on the way the sweet potatoes keep than upon anything else. There isn't one year in ten but what the price advances sufficiently to pay for the cost of storage and loss from shrinkage and leave a nice margin for profit besides.

There are some conditions under which sweet potatoes are grown that sometimes make it unprofitable to store them. For instance, if grown on low, moist soil the loss from shrinkage will be about 20 percent, while if grown on high, well-drained ground the shrinkage will be but about 10 percent. The danger of loss from decaying is also greater when sweet potatoes that have been grown on low ground are stored.

But even under very unfavorable conditions the sweet potato can be stored at a profit. One grower, whose ground is so low and damp that his sweet potatoes are always dark in color and more or less rooty, can not sell them to any advantage during the fall while the market is full of choice sweet potatoes. If he did sell as soon as he harvested them, he would have to take from 25 to 50 cents per barrel less than other growers. Rather than do this he stores his entire crop, and by keeping them in as nearly ideal conditions as possible, very rarely loses any from decaying. Then during the winter and spring when the market is not so particular as to quality, he markets his crop and receives more for it than growers who have gilt-edge stock and market as soon as harvested.

A good type of house for the storage of sweet potatoes is built much on the same principle as an ice house. It should have double walls. Packing between the walls, while very desirable so long as it keeps dry, should not be used, as sooner or later it will become wet and rot out the boards. Only enough windows are needed to furnish light while the potatoes are being stored or packed for market. When they are not used for ventilation or to give light they should be boarded over so as to leave the potatoes in darkness. Means for plenty of ventilation should be provided. The bins should be built so that the air can circulate under, around and between them and the walls of the house. They are usually made of 1 by 4 inch slats spaced about 1/2 inch apart. The bins should not be wider than 6 feet; they can be of any length, but when longer than 8 or 10 feet it is very inconvenient to fill them. Space for the stove or heater should be left in the centre of the house.

While a house of this type is very desirable it is not necessary. The cellar under the dwelling house is a good place to store a portion of the crop, and if the house is heated by a heater no extra expense for fuel is required. Old deserted dwelling houses can be used. The old-fashioned partially underground root cellars are all right if they can be kept dry. At Pedricktown, Salem County, N. J., growers are successfully using ice

houses to keep their sweet potatoes in storage until about Christmas, when they are sold, and the houses filled with ice.

When such temporary storage places as these are used, the sweet potatoes are usually stored in crates or hampers, this being more convenient than the construction of bins.

Sweet potatoes that are intended for storage should never be handled any more than can be helped, and when they are handled it should be done carefully. Bruises and scratches are often the



CULTIVATING SWEET POTATOES WITH CULTIVATOR HAVING VINE TURNING ATTACHMENT. A GOOD PATCH OF "SWEETS" FOR JUNE 24.

starting points for decay. In placing them in the bins, the rear end is filled first so that it is not necessary to walk over them. They should not be dug on hot or damp days. Cool, sunny and windy days are preferable, for on such days the potatoes are well dried by the time they are carted to the storage house.

As soon as the potatoes are in the place of storage, a hot fire should be started and kept up for ten days or two weeks, or as long as the potatoes "sweat," or give off dampness. The temperature during the sweating or curing period, should be maintained at



ONE METHOD FOR STORING CELERY.

about 50 to 90 degrees; the windows and ventilators should be wide open during the day time, if the weather is not damp or rainy, and closed at night. As soon as no dampness can be felt when the hand is placed over the potatoes in the center of the bins, and when the skins seem perfectly dry, and the ends of the potatoes that were broken in harvesting have healed, the temperature may be allowed to drop to 50 or 60 degrees. During the early part of the fall it will not be necessary to keep the fire going very hard as the temperature will not fall below 50 degrees, but as the season advances and there is dan-

ger of the temperature falling below this point, the fire should be increased again. It is advisable, however, to start up a good fire on rainy days during the fall so as to keep the house or cellar perfectly dry.

Sweet potatoes should never be disturbed or handled while in storage. Potatoes that are to be used for eating purposes should be stored in small bins or crates and not be taken from the large bins where the commercial potatoes are stored. If they show signs of decaying after they have been stored,

with choice potatoes during the harvest period; hence it is also profitable to store them. In doing so, however, strict attention has to be paid to the details of storage or such potatoes will not keep well. The double wall type of storage house is the best, but deserted dwelling houses, cellars and ice houses can be utilized. Sweet potatoes that are intended for storage should be handled carefully and as little as possible. The temperature during the curing period should be maintained at 50 or 90 degrees and plenty of ventilation given on dry days. After they have been cured thoroughly the temperature should be maintained at from 50 to 60 degrees. It is usually most profitable to market in late winter or early spring when the potatoes keep perfectly; otherwise, they should be marketed as soon as it is noted that they are decaying.—Harris T. Kille, Gloucester Co., N. J.

STORING CELERY.

There are a number of good methods for keeping celery, one of which is represented by the accompanying illustration.

While employed on the farm of M. L. Ruetenik, of Cleveland, O., last summer we caught several ideas along this line which may be worth recording. Mr. Ruetenik is one of the most successful intensive vegetable growers in the country, farming as he does about 11 acres, 6 of which are now under glass. Mr. Ruetenik has several acres in celery alone, upon which he was depending largely for financial returns during the period in which we were with him.

When frost or freezing weather comes, Mr. Ruetenik makes trenches for his celery, and uses the boards which have been employed in the blanching process as a covering for the plants after they have been placed in the trench. Before the severe weather sets in the celery is sometimes wrapped, each individual stalk in paper. With some varieties, of which the Grand Pascal is one, the method of going thru the rows with a plow and throwing the dirt back over the plants to protect from frost, is often used. This is effective in the case of this variety, but is rather inconvenient when it comes to getting the celery again for market.

Where the bagging method is used for light freezing, the boards may also be used to reinforce the protection afforded by the bags. In case celery has to be gotten out in a hurry and put in the trenches, it may be taken out quickly with a plow and then gotten under cover.

For severe weather, the trenches should be so boarded as to permit of no air permeating thru a board space, or the slightest space allowed by two ill-fitting boards or by a knot hole, will spread the frozen area on the plants very appreciably. Mr. Ruetenik has arrived at this conviction by frequent observations.

Another method of protection from frost is that of putting the celery in a trench with a layer of dirt and boards in two successions. For light frosts, celery which is being blanched is sufficiently protected by the blanching boards.

Late celery comes on the market just before frost and by utilizing proper storage methods, the crop may be marketed for an indefinite time after that period.—C. M. A.

ONE SCHEME FOR REDUCING THE COST OF LIVING.

We have not been altogether satisfied with the way in which returns come from our shipments of fruit to the commission man. We would not presume to blame the commission man, realizing that he has his troubles to contend with,

but it would seem that there is an almost endless chain of helping, or perhaps we would more appropriately designate them as "helping themselves," hands all along the line. If we could ship to one man, who in turn could sell to the retail dealer, all would be well, but there are so many "in betweens" that this is impossible. The speculator, too, is always "on the job," apparently "seeking whom he may devour."

This year we adopted a plan for disposing of our peach crop, the results of which have been very gratifying. On July 1st were inserted an advertisement in the county paper such as follows:

Pancy peaches for canning.—On sale during the last week in July and the month of August; Lodge and Old Mixon are especially recommended; phone or write for prices; cash with order.

In a week's time we were receiving phone inquiries.

We decided on a fair price for the fruit and then graded the price as we took all the extra soft peaches, at the same price for which the extra firm ones were sold. These soft peaches were worth more to the hotel men than the firmer ones, and of course would not have borne shipment. The speckled fruit was used in this way also. All that could be culled out by 3 o'clock in the afternoon were picked at once and when used that day would easily serve from 25 to 50 persons, or if canned would make from 3 to 4 quarts. This fruit was sold for 25 cents straight for a basket, regardless of size or variety, so that often the purchaser got three times the worth of his money. Inasmuch as they could not be shipped, anything realized on them was clear gain.

Several large dealers came over and brought fruit. We have our own wharf, so that they could land their boats and load without paying wharfage. They arranged with us for a fixed price, regardless of the market, making their own terms with their customers.

A little money spent in telephoning brought us some orders which could be shipped on the regular boat leaving in the afternoon. We always aimed to pick the fruit for this shipment just in time to make the boat, so that our customers would receive the fruit within twelve hours of the time it left the trees.

By this plan we saved the extra freight and cartage and commission man's profits. The buyer also saved this and more, too. We knew to whom we were selling and the purchaser had our guarantee back of his purchase, so that he knew what he was buying. He paid no more for his fruit because of the guarantee and had the additional satisfaction of knowing that he was getting the value of his money.

Had the new Postal Law gone into effect sooner, we could have done a little retail business. We shipped a small wooden box containing 12 of our largest peaches clear up to New York for only 14 cents. None of these peaches could have been purchased for less than three for a quarter or possibly 10 cents each, at the corner store. Next year we intend to fix up special boxes and to work toward acquiring a reputation such as some of the candy makers or confectioners have. I have been told that I will lose money by such a scheme; that people are not going to send money and run the risk of not getting their fruit. However, such transactions are carried on in connection with other commodities, and I feel that it will work just as readily in connection with peaches. At any rate Uncle Sam will collect our money for us. We believe he will still look out for the interests of the farmer, even tho he has taken the tariff off wool.—Evelyn Harris, Kent Co., Md.

NUT CULTIVATION

Agricultural exports located in different parts of the United States, advise the careful planting and propagation of the various species of nut trees thruout sections of the country that would be suitable to nut culture.

The consumption of nuts as a staple article of food is increasing everywhere and they are considered much more wholesome than meats. In the South the growing of nuts is being adopted along scientific lines, with large profits to the growers; whole orchards being set out and cared for the same as fruit orchards in the North.

In this climate these trees, hickory, chestnut, walnut, etc., grow mostly wild, but it is well urged that they be cared for in a better manner and cultivated.

It is declared that other varieties of nuts that have been considered as thriving only in the South can be grown just as well in other sections, particularly in Pennsylvania and New Jersey. Notably this is true of the pecan.

There are some Pennsylvania farmers who have planted and cultivated chestnuts, and they have been very successful, the product from these trees being marketed in Philadelphia and other cities, where there is a great demand for the wholesome nuts.

It is believed that if farmers and growers, would plant nut trees, the experiment would result to their material advantage.—W. A. Engard, Hunterdon Co., N. J.

A NATIONAL FRUIT GROWERS' EVENT.

There will be held in Washington, D. C., from November 17 to 22, what will be known as Fruit Week, under the auspices of the American Pomological Society.

The program of the week will include everything of a pomological nature from variety studies to discussions of markets and marketing as related to fruit growing. One of the interesting events will be a contest in score card judging, open to college teams and individuals.

Plans are in the making for an excursion to Baltimore to inspect the fruit exhibit of the Maryland State Society the morning of the 22nd. Further information may be obtained upon application to the Secretary of the American Pomological Society, E. R. Lake, Washington, D. C., 2033 Park Road.

CELERY CULTURE.

Celery culture, which has been given more prominence in this state for the last few years is the subject of Bulletin 60 of the Michigan Experiment Station at East Lansing, Mich. In many respects the Michigan growers have superior methods to our own and this bulletin fully describes the culture of celery as practiced in that state. The subjects of drainage, soils, preparation of the soil, fertilizer, salt, seeding, transplanting, cultivation, blanching, harvesting and marketing are all well discussed.

THE MONTREAL MUSKMELON.

Growers of cantaloupes will doubtless be interested in Bulletin No. 19 of the Vermont Experiment Station, dealing with the "Montreal Market Muskmelon." Concerning this melon the bulletin states that it may be grown successfully in the Northeastern States; that the demand for this melon exceeds the supply; that while the crop is costly to grow, sale prices make it highly remunerative, and that the development of a uniformly high quality strain of this melon is well worth the attention of the plant breeder. This bulletin is mailed from Burlington, Vt.

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"The high agricultural value of phosphatic slags has led to their adulteration and even to the substitution of other bodies." (Principles and Practice of Agricultural Analysis, by Dr. H. W. Wiley.)

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Poultry

POULTRY QUERIES

(Answered by Prof. M. C. Kikpatrick, State College, Pa.)

F. B. R., Mexico, Pa., writes: My chickens have white diarrhea or else cholera. I would like to know what to do for them.

Without knowing definitely the symptoms of the disease and the conditions under which they are kept, a definite answer is impossible. The trouble may be acute indigestion. See that houses are clean, well ventilated and well lighted. Give the following in the mash daily for ten days or two weeks, using two or three tablespoonfuls to ten quarts of dry mash: Pulverized gentian, 1 lb.; pulverized ginger, 1 lb.; pulverized saltpeter, 1 lb.; pulverized iron sulphate, 1 lb. Attention to the general rules of sanitation and hygiene and careful attention to the feeding will likely show improvement in a few days. Separate all the



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sick fowls from the flock at once. Kill and burn any that are in advanced stages of the disease. Advise us in detail in regard to the symptoms and conditions under which the fowls are kept.

J. H. G., Cochranton, Pa., writes: Many of our chickens have been dying off suddenly. They drop their heads to the ground, roll over and die quickly, very few of them living more than 30 minutes after taken sick.

The symptoms given indicate poisoning of some form. Information given in regard to symptoms of fowls and conditions under which they are kept, is not sufficient to justify a diagnosis. See carefully to the sanitary and hygiene conditions, provide plenty of clean, fresh water and use only sound, clean feeds. Give potassium permanganate in drinking water. Use enough of a saturated solution to make the drinking water a deep wine color. Use daily.

H. G. T., Girard, Pa., says: I have 30 turkeys which were doing nicely until two weeks ago. I am told by a poultryman that they are suffering from blackhead. If so, I am at a loss to know what to do for them and how to treat them. None of them have died, but four or five of them are losing flesh and act quite dumpy.

The following is quoted from Maine Bulletin 398, and Rhode Island Bulletin 141:

"Medical treatment of turkeys affected with 'blackhead' is of little avail, at least in the present state of knowledge. Isolate the sick bird from the flock and place in a dry, well-lighted location free from cold and draughts.

Feed sparingly on soft, light, easily digested food with little grain, especially corn. Chief preventative measures are to keep the birds on fresh ground, to isolate any birds showing the least sign of disease, to destroy all dead birds and to protect the turkeys from contamination carried either by new stock, other poultry or birds, such as sparrows, etc. Recent investigations indicate that the use of sour milk is advantageous as a preventative measure and may affect a cure." Dr. Morse recommends for turkeys under three months old one-half grain copperas in the morning and a 24-grain pill of salicylate of soda in the evening. Give Epsom salts every three or four days and keep the grounds well sprinkled with lime.

C. M. A., Philadelphia, Pa., asks: Is there any means of getting rid of rats about a chicken house? I know of one place in Maryland where the rats are taking on an average, one chicken each night and this apparently despite the precaution used to elevate the roosts of the fowls.

Make the house rat proof by equipping it with a concrete floor. Line the walls for 18 inches above the floor with 1-inch mesh wire netting. A house with

Good winter quarters are an essential and are as important as a good breed of stock.

The cost of growing pullets will depend largely upon the weight of the birds when fully matured, or up to the time of laying. Two or three pounds of food will be necessary to maintain a chick from the time it is a day old until it is three weeks old. From three to twelve weeks four to five pounds will be necessary. After the twelfth week from five to seven pounds per pound of gain will be necessary, depending largely on the age. At the laying age the fowl will consume from three to four ounces of food per day.

Leghorns consume more food per pound of gain than do the Plymouth Rocks, Wyandottes, Rhode Island Reds or Orpingtons.

After the age of ten weeks the cost of feeding the pullets to the number of chicks hatched will depend on the loss of chicks, according as this is greater during the early or late stage of brooding.

POULTRY NOTES

Turkeys

A good plan in killing turkeys is to tie their feet together hang the birds on a pole, and then cut the throat so as to expedite bleeding. They should be dry-picked and the head and wings left on. After they are picked they should be dipped in hot water and then in cold, which treatment will give the skin a fresher look.

Some turkey raisers prefer marketing the toms in the month of December and keep the hens until later, so that they may increase in weight and command a better price.

A plump young turkey, dressing from 8 to 15 pounds, finds a market at almost any season of the year.

An English writer says there are two points to consider before choosing the breed of turkey, viz: whether the birds are to be reared with the purpose of

making a profit with them or whether they are only for home consumption. If the former, he selects the Bronze variety. He says for profit it is purely a question of obtaining birds of the heaviest possible weight when they are from six to nine months old. He further says that not only does this breed produce heavy weight, but quality of flesh is also obtained.

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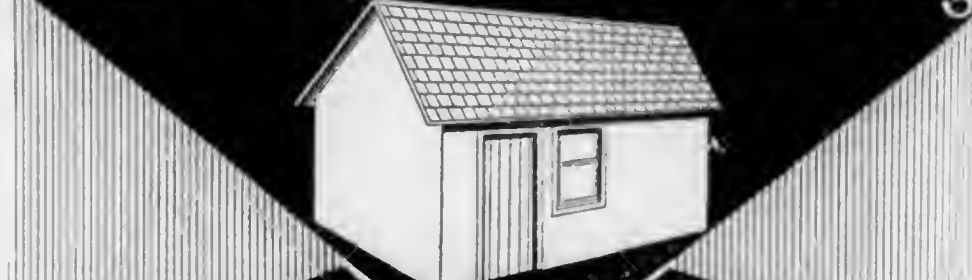
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We have tried sows of all ages, and recently we have practiced the policy of turning off the brood sows for pork after having raised three or four litters. We have observed that these old sows become heavy, careless and lazy; they kill their pigs down to small numbers, even when having given birth to large litters. If sold in the summer, when roughs are relatively high in price, a great margin of profit may be made by substituting gilts for fall farrowing, and at the same time, nothing really will be lost in the value of the litters.

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REMARKABLE EXPERIENCE WITH HOG CHOLERA.

The superintendent of one of the largest farms and hog raising establishments



THIRTY-TWO HOGS, SEVEN MONTHS OLD, WEIGHING 6,920 LBS.

in New Jersey had a very interesting experience with hog cholera last fall. About the time when he was about to begin hog slaughtering for the winter pork, and when he believed that every part of his big herd was in prime condition, he awakened to the fact that some of his hogs had become infected with cholera. He investigated but met with the same experience as others under similar circumstances. Not the slightest trace of how the disease got into his pens could be found, unless the fact of a strange dog on one or two days a short time previously could be regarded as the possible or probable source of infection.

That the disease was there became more apparent every day, and he ceased investigating its origin to devote his time and effort to stamping it out and checking its spread thru his entire herd. Some of the animals he killed. Those found tainted in the slightest degree when their carcasses were examined by his own veterinarians and by the federal government inspectors were destroyed by fire and other effective methods. Those which had not yet been touched by the disease and which were given a clean bill of health were disposed of in the usual manner. In the case of those which were not killed and destroyed because they were already victims of the cholera, the cure of some was undertaken by means of serum injections and the additional treatment prescribed for such conditions. Exceptional success was met with, but the exact proportion of cures which resulted and the details of each

case, whether saved or lost, are being saved for presentation to the state and federal authorities in charge of animal diseases.

Of the entire experience, the case of ten large, well-bred and apparently healthy sows, all of which were with pigs, afforded the most remarkable study of results. Each developed the cholera in violent form, but owing to their condition, it was decided to do everything possible to save them without resorting to the use of serum. They were carefully treated and closely watched and seemed to suffer less than other members of the herd similarly affected. To the surprise of the men in charge of them, each of the breeding sows went the full period of gestation, and then gave birth to a litter of pigs, the number in each family ranging from six to fourteen.

Right there began to develop the features which are regarded as so remarkable that they are shortly to be presented in detailed form to the New Jersey State Association of Veterinarians, the State Board of Health and to the United States Bureau of Animal Industry. All the little pigs were dead at birth. Careful examination showed that in every one were definite signs of hog cholera infection. Each of the litters was destroyed in the order of its

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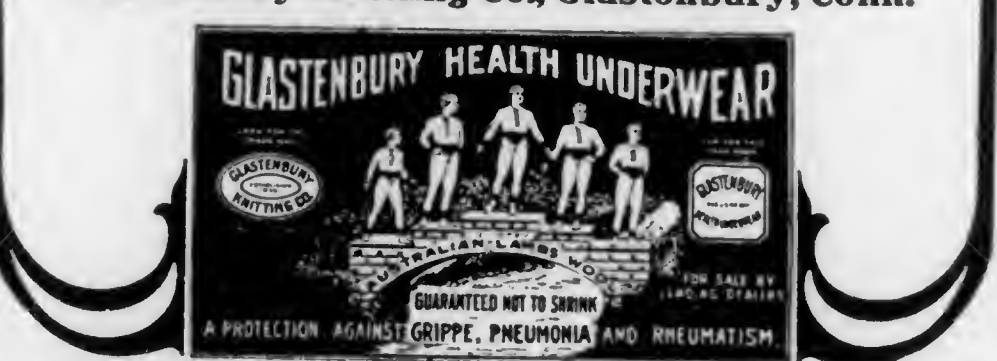
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Philadelphia, Pa., October 4, 1913.

Reviews of the potato crop by trade journals and other statistical agencies place the prospective yield of this year at about 50,000,000 bushels below that of 1912. These figures closely approximate those of the Department of Agriculture, and should be given consideration by potato growers. It must be remembered that last year's crop was unusually heavy, and a fall from the figures of 1912 does not necessarily indicate a potato shortage. Yet prices should rise considerably above those of last year, and the prudent grower will do well to study market conditions and prospects before selling. The decline from last year is general over the country, Maine being the only important potato state that is credited with an increase over last year's figures. This would indicate a uniform shortage in supply at all markets of the country and establish a healthy market condition. The proposed tariff bill, which will probably become effective in a few weeks, will place potatoes on the free list, removing the 25 cents per bushel duty now in force. This will naturally hold prices down from the high point of two years ago, but should not prove a serious factor unless prices go up above the 75-cent mark. Everything indicates that those who were fortunate enough to secure a fair crop will make a good profit. The price received may be substantially influenced by judicious marketing.

A recent summary of business done by railroads in the Profits. United States during the fiscal year ending June 30, issued by the Interstate Commerce Commission shows that these corporations have had the greatest twelve months in their history. The report of the commission covers 221,749 miles of line. Taking the railroads as if one system, their gross receipts from operation passed the three billion mark, the exact figures being \$3,057,163,763, which is an increase of \$288,190,910 over the previous fiscal year. Earnings per mile were \$13,757, against \$12,005, as shown by the previous year's profit. While operating costs increased somewhat, the advance was so slight that it would seem that railroad managers will find some difficulty in supporting the demand

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for a general advance in freight rates. If profits are any argument against such an increase, it may be interesting to note that the profits on the roads included in the summary have increased \$77,341,332 over the previous year. During the past year the proportion of operating and maintenance expenses to gross earnings was 69.30 percent, while the year before it was 69.16 percent. Operating costs increased \$84,574,363 and taxes something over \$8,000,000. Despite this increased burden, however, after deducting taxes and adding in the net revenue of outside operations, the ledger shows a clear profit of \$815,000,972 or a gain over last year's profits of \$77,341,332. This is equivalent to a profit of \$3,678 per mile of line operated. It will be seen then that with the \$815,600,972 operating profit, the country's system of railroads has earned 6 percent on a capitalization of nearly \$13,600,000,000.

Even the Interstate Commerce Commission should see fit to refuse the demands of these roads for an increase in freight rates, it is doubtful if they will experience any great inconvenience in keeping the wolf from the door.

A Pet Road Argument

The favorite argument with these who are urging the farmers to support the \$50,000,000 road bond amendment is that it will give the farmers some benefits for which they will not have to pay. The National Stockman and Farmer, which has recently joined the ranks of the bond boosters, uses this argument in the following words: "Farmers should vote for the amendment because they will benefit by good roads without having to pay for them. . . . Farmers do not get much without having to pay for it in this world." This argument is as dangerous as it is deceptive. It appeals, and is intended to appeal, to the most selfish and most cowardly sentiment in civic character. It urges the farmers to ignore their obligation to weigh the economic and political aspects of the issue, and cast their votes for the amendment on the selfish ground that it will give them something for nothing. Interpreted into plainer words, this argument says: "Why go into the details of this thing, or stop to measure costs? Help make this levy of \$50,000,000 on the other fellow, and the State Highway Department will build some roads. The officials who will have the handling of this fund do not know what kind of roads will be built, how much they will cost, how long they will last, how many miles of road can be built before another \$50,000,000 levy will have to be made, or even whether this is the best and cheapest plan of financing road construction. But you need not worry about that. The state will pay for it, and the 'state' is the other fellow. You get something for nothing, so turn in and help 'put this thing over.'" This has been the argument back of every special privilege seeker since government began. This selfish effort to get something for nothing, which always means throwing the burden of support on someone else, is responsible for every injustice and every inequality in state and federal legislation today. The farmers have never sought special privilege. Their plea has always been for a square deal, with equal rights and equal burdens for all. The road bond amendment is a mighty poor issue upon which to attempt to foster the special privilege idea, except possibly for those who will have the handling of the \$50,000,000 fund. Farmers have good reason, also, to question the statement that the proposed amendment will give them something for nothing. Under the present state laws the bonds would be carried largely on revenues derived from business and cor-

poration taxes. But the bonds are to run for a period of 50 years. Already there is talk of a constitutional convention within the next few years, with a complete revision of our tax system; and tax laws are subject to change at any time. Who can tell what part of the original bond issue the farmers will be carrying ten years from now, to say nothing of 50 years from now? There are too many angles in the bond plan to make it safe for any class to vote blindly with the hope of securing something for nothing.

The Interstate Commission, in announcing the result of its investigation of the recent disaster on the New York, New Haven and Hartford Railroad, which killed 21 persons and injured 35 others, places responsibility squarely upon the directors of the road. These directors include some of the leading financiers of the day, and men who have been so closely identified with railroad development and management that, as the commission report says, the public felt that both investments and travel were secure in such experienced hands. This report, following the long line of serious accidents and disasters, shows that this confidence by the public has been betrayed in both instances, and that travel was made unsafe thru manipulation of investments. The road is criminally deficient in equipment and safety devices long since in common use on other roads, and this laxity in properly equipping the road was not due to a lack of funds, but to the practice of the managers in diverting these funds "in pursuit of a law-defying monopoly." The record of the New Haven road in securing a monopoly of all the transportation business of New England is well known. Its part in corrupting the legislatures of those states to secure its ends furnishes one of the most flagrant examples of special privilege legislation. All of this is New England's problem, but what makes the recent revelations of universal interest is the fact that the New Haven directors are also directors of other roads, and the methods used in the management of the New England system are exactly the same methods that the same directors would use in general railroad finance if they were not effectually controlled. The character of that control is a national problem. When our courts reach the point where they will place responsibility where it belongs, regardless of financial or business position, as the Interstate Commerce Commission has done, and when criminal negligence on the part of a railroad director is treated in the same way as is similar negligence on the part of a railroad flagman or engineer, then we will be approaching the final solution.

This is one of the many years when the silo is proving the savior of a large part of the corn crop throughout the east. The early frosts over large areas cut the crop short, and where the growers were without silos, the proportion of the crop saved will be small. The grain was not yet matured, and the frosted fodder makes indifferent forage at the best. But where there was a silo on the farm, the crop was hurried in, saving the full value of the corn ears in their immature stage, and converting the fodder into silage that will be but little below the quality of normal years. This advantage of the silo in enabling us to save something from what would otherwise be almost total loss, is a feature which is too often overlooked. The silo has not only demonstrated its usefulness in providing a superior stock food, and cheapening the cost of feeding; but it is good insurance against loss in early frost years.

STATE CAPITAL NEWS.

Township Highways.—Pennsylvania has established a bureau of township highways in the State Highway Department, and announcement has been made that Mount Ararat has been sealed. Both events are of about the same value to the rural districts of Pennsylvania. The act of July 22, 1911, provided an elaborate system for administration of township highways, which aggregate 80,000 miles; arranged for a chief to be guide, counselor and friend to the 4,500 supervisors in charge of them; for furnishing of engineering advice, standard bridge and road plans; specifications for building; information as to repairs, drainage and other details, and for furnishing forms for uniform bookkeeping and, above all, for reports. Townships were to be aided to an extent of not over \$20 a mile. There are 80,000 miles and the legislature appropriated \$250,000. Now, it is a question whether the expenses of organizing the bureau, because it must have clerks and people to write the letters and answer requests and for furnishing printed forms and other things, is a come out of the \$250,000 or from the funds of the already distressed State Highway Department. The chief will get no salary. He is already a public official and the work is just added to his duties. The state made a contract to pay townships 50 percent of cash work tax collected some years ago when the legislature passed the law, but the lawmakers have never provided nearly enough money. Some people estimate that the state owes about \$3,000,000 to the townships without counting in the millions or so appropriated this year. This bureau was well meant. It was copied after similar bureaus in other states and properly supplied with funds could be of inestimable benefit to the dwellers in cities as well as country in Pennsylvania. But the legislature provided millions for hospitals and homes, not under state control, purely local enterprises, which, while doing a great humanitarian work, are not given a tithe of what should be contributed to their support by their home folks. It is just another example of legislative bluff.

The state has now organized the bureau and the highway department has fine but how it is to pay the force to run it. The townships may get plans and advice, but will have to fall back on their own taxation for funds to do the work. It is all very well for the state lawmakers to declare in speeches at this summer that a way has been provided for the improvement of the township roads, the back roads on which the farmers have to travel, but the failure to provide the funds remains. The township supervisors and fire marshals' departments have issued warnings on fires. The forestry department calls attention to dangers of burning brush fires close to woods and buildings now that the leaves have begun to fall.

Demands for Parasites.—State Zoologist Surface is in receipt of many letters asking for the San Jose scale parasite. The supply is not yet available. The Bureau of Entomology and Plant Quarantine has issued a circular to the effect that the state general department has informed the state Highway department that there is no conflict between the early acts relative to control of tractor engines on highways and the act of 1913, which gives the commissioner authority to license such machines and regulate their use. The licensing of such machines will start in December and all tractor engines and all trailers must display licenses when operated after January 1.

Gauging Work Established.—The gauging stations established by the State Water Supply Commission on the west branch of the Susquehanna have been in operation for two months, and the method appears to be working well. It is the plan to continue the trials all winter. The gauging stations will be used to cover the state gradually. Some experimental gaugings were given during the recent rain and worked out to a nicety. The real tests will come during heavy fall rains.

Wild Turkey Law.—Already denials are being made for changes in the law prohibiting the shooting of wild turkey. For two years, but such a thing will be impossible until the next general assembly meets. With the perversion of the law, the wild variety, now that the law has prohibited its killing until 1915, appears to be not only abundant, but familiar with farmers in many counties.

Hunter's License Law.—Formal notice that the hunter's license law is now in force has been given and persons found hunting this week and next after without licenses will be prosecuted.

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ated. The state police have arranged to co-operate with the game wardens in enforcing the law. The only hunting allowed now is of plover and a few shore birds with bear, raccoon and other early game. Woodcock can not be shot until after October 15.

Damage by Deer and Elk.—State game authorities have established a rule that clear damage by deer or elk must be proven before they will even listen to claims for damages. Lately, deer have multiplied until farmers in mountain counties have been annoyed by their depredations in fields and orchards and some have threatened to shoot them. Damage by elk, which can not be shot for nine years, is reported to have been inflicted in some up-state counties. The state is naturally inclined to be wary about claims for damage by such animals and mighty few, if any, will be paid.

Cold Storage Battle On.—The law regulating periods for storing foods is to be settled in the court. It will probably take a year to settle the case because the state has always been in the habit of regulation of food storage, for all of whose ills the farmer has been blamed most unjustly.

Indictments.—There is something rather ludicrous in the present wave of action against people responsible for condition of highways. Some counties are indicting the state highway commissioner for failing to keep up main highways and allowing local supervisors to go unscathed, while in other counties supervisors are being haled into court and the state officials are not touched. The trouble with both sides is inadequate funds. The State Highway Department never has had the funds to properly maintain the roads. The remedy calls for a well-sustained campaign to require the next legislature to cease paying out appropriations to charities and give more to the countryside. It is absurd that public works, roads and bridges, should be made to suffer because hospitals and homes, which ought to be maintained by the communities which they benefit, are allowed to draw money from the State Treasury and are barely under any regulation as to the way they spend it. It is this illogical condition that has placed the people of Pennsylvania in the position of having to vote whether they want to borrow \$50,000,000 to build highways.—Hamilton, Harrisburg, Pa., Sept. 29.

NEW JERSEY FARM NEWS.

Municipal Market Schemes.—There is much interest at present in the establishment of municipal markets. The New York, Boston, Philadelphia and other large cities have sent representatives to study its operation. Each farmer has free use of a stall or space to hawk his loaded wagon into or in which to sell his goods, provided he offers nothing for sale not grown upon his own farm. Each farmer is held responsible for the cleanliness of his own place, and the produce directly to the consumer. The farmer's market at Burlington is growing. At Camden's "curb market" the farmers arrive at an early hour with vegetables and produce direct from the farm, which are eagerly purchased by housekeepers. These markets interfere in no way with the business of the provision dealers, and have evidently come to stay.

Corn Crop News.—The New Jersey apple crop will be 58 percent of normal. Last year it was 60 percent and in 1911, it went up to 73 percent. The quality is excellent, although there has been some injury from scab. The grape crop is short because of long continued drought and unfavorable weather all summer. Growers have contracted with the wine men for as much as \$45 per ton f. o. b. in Ocean County this season than for many years. The hops suffered early in the year from frosts, which killed the blooms, and later the long drought hindered growth. Corn is maturing sooner than usual, many farmers filling their silos and a few shocking their grain. Alfalfa will go into the winter in splendid condition. It is believed that the new disease which hit the potato crop in some sections, the Cuban blight, will not be so serious as last year.

NEW YORK LETTER.

The Crops.—Peaches have given the one very big crop this year. The State Agricultural Department places it at 55 percent of last year's crop, but as that was the largest on record the 55 percent means much for this year's production. The dry weather has affected all other crops, the cereals particularly. Corn is placed at 63 percent; potatoes at 55 to 60; fall apples at 44, and winter at 37; hay, 53; rye, oats and barley about the same as last year. Ulster County, in the eastern part of the state, is a grand exception to most apple-growing counties in that it has an immense apple crop. It is estimated at 1,000,000 barrels. It is selling at \$1.50 per barrel. The late potato crop is much better than the early, and yet the highest estimates will not place it above a 75 percent. Onions are an immense crop, some farms in Wayne County producing 6,000 to 8,000 bushels. At one town in that county 275,000 bushels of onions will be handled. Grapes along the Hudson are fine in most places. At Germantown daily shipments are trying to defeat the law. There is

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a neatly woven basket that looks as though it held an abundant eight quarts, but a careful inspection will reveal a basket within a basket, which may be so adjusted by a quick turn of the hand as to allow any suspicion.

The Canning Industry.—George C. Low, chief of the Bureau of Statistics, has completed the preliminary details to his annual report on the canneries in the state, carried to the canneries in operation, he points out that the industry is not carried to the extent warranted by the supply of material. The pack of vegetables in 1912 included 11 varieties, the aggregate weight of which reached a total of 71,507,052 pounds, of which more than half consisted of tomatoes. The fruit pack of 1912 contained 32 articles, the aggregate weight of which was reported at 6,578,688 pounds. Pears formed the principal article in the pack. Twelve of the canneries are operated by individual owners or firms and 32 by corporations. The aggregate capital invested is \$773,985; the number persons employed, 4,995; the total amount paid in wages, \$450,890; the total selling value of the product, \$2,528,320, and the average earning of the individual employee, \$40.27.—D. T. Hendrickson.

MARYLAND NOTES.

Farmers' Club Meetings.—The Union Bridge Farmers' Club held its last meeting at the home of Mr. R. Lee Myers, of Linwood. The farmers' clubs of Maryland at their meetings on the farms, have a committee appointed to inspect the farm, noticing everything—crops, live stock, etc. The plan is educational and as "seeing is believing," new ideas of value are often picked up by the members. The Upper Cross Roads Farmers' Club (Harford Co.) held its last meeting on the farm of Mr. T. W. Field Searff, where the members found interesting objects of intensified farming.

Orchard Products.—Mr. Orlando Harrison, of Worcester Co., has shipped this season 52 carloads of peaches picked from his orchard of 10,000 trees. Counting the soft peaches and other local shipments, there were 60 carloads from the orchard. Mr. John Hutzell, of western Maryland, is one of the very few there who has a good crop of apples this season. He has 400 trees, 16 years old, which are well loaded with fruit of fine quality. There are 24 varieties, with the King, Baldwin and York Imperial the heaviest yielders this season.

Tomato Yields.—Harford County has produced some good yields of tomatoes, notwithstanding the unfavorable season. On three acres, Mr. Wilbur W. Walker picked 1,100 bushels. Mr. Emory Johnson marketed 935 bushels of tomatoes from two acres. His brother, Mr. D. E. Johnson, gathered 1,500 bushels from 31 acres. Mr. William Moore, of Kent County, harvested 5,000 bushels from six acres. He used plenty of fertilizer and frequent and early cultivations.

Fall Strawberries.—Mr. Robert L. Humphrey, of Anne Arundel County, has been supplying a restaurant in Baltimore with fine strawberries this month. On September 23 he delivered 496 quarts which made up to that date, a total of 1,033 quarts delivered during the month. Another grower in Harford County has also been shipping quite a lot of strawberries this month. One earl, ing house in Baltimore has had strawberries every month of this year up to date.

Farmers are busy with wheat seeding and corn cutting.—G. O. B.

WAYNE CO., PA. (N. E.), September 22.

Clear and pleasant after heavy showers; stock looking well, most of which are kept in the barn during these chilly nights. The potato crop is poor; apples abundant where trees were sprayed, not much change in prices. Lots of winter grain in; silo filling the order of the day at present.—E. W. Carl.

Fayette Co., Pa. (S. W.), September 24.—Cool nights and local showers. Live stock still in great demand; summer drought injured the late pastures; corn silos about half filled; no fruit of any kind; no plowing done yet; too dry; silos filled and all crops in barns.—Harris.

Clinton Co., N. Y. (N. C.), September 20.—Very dry; many wells dry; pasture poor and cows thin; veals, 8c live; good cows, \$75 each; corn crop a failure; silos about half filled; no fruit of any kind; no plowing done yet; too dry; silos filled and all crops in barns.—Henry E. Gilbert.

ments of about 10 or 12 carloads were made and the growers realized about \$70 per ton for them. The hop crop in Schuylkill County, which is the chief hop county, is a large one, the Middleburg production being about 11,000 boxes, valued at \$53,000.

Cattle Indemnities.—Last spring Governor Sulzer vetoed a bill providing for payment of cattle claims against the state. The total of these claims had reached \$40,000. At the special session of the legislature, Acting Governor Clynn had the bill re-introduced and sent an emergency message to the legislature asking its immediate enactment. An appropriation of \$225,000 was thereupon voted and is now available for the purpose intended. Commissioner Huseen has certified the claims and doubtless by this time 1,000 farmers, or a large majority of that number, have received checks for their claims.

The Dairymen's League.—Since the hay harvest season has passed farmers and dairymen along the Hudson are giving more attention to the Dairymen's League as a help to their business. Secretary Manning says that new subscribers are coming in faster than he can take care of them. This is a good indication. The directors are not empowered to act for the league until 75 percent of the members have so agreed, but that number will soon be reached. He says if the dairymen had awakened to their opportunities a year or even six months ago they could have posted prices this fall, but they will be prepared to do so when the March schedules are made out.

Cattle Man Fined.—A cattle dealer of Lynn, Mass., was fined \$1,000 on September 5, by Judge Ray, at Syracuse, for violating the federal law against shipping diseased cattle from one state to another. He is charged with making a shipment of tubercular cattle from Newport to Grafton, Mass., two years ago. The fine is one of the largest ever imposed for such an offense. Judge Ray said, "In shipping diseased cattle from one state to another, you are endangering the lives of hundreds of people and are rendering hundreds of head of cattle liable to infection."—D.

COUNTY NOTES.

Harford Co., Md. (N. E.), Pylesville, September 11.—Weather pleasant, very little rainfall. Live stock of all kinds continues very high. Fresh cows are in great demand, selling from \$75 to \$100 apiece. Corn is a good crop, and is nearly ready to cut, old corn selling at 30c per bushel; wheat, 85c; oats, 45c; potatoes, 45c and 50c; hay, \$14 per ton. Farmers filling silos; ground too dry for preparation for seeding; canning factories very busy canning tomatoes and corn, which is a fair crop.—D. G. Harry.

Frederick Co., Md. (N. C.), Landor, September 5.—Fair and temperate; fine rain on 21st. Cows highest ever known in this locality and very scarce; calves, chickens, eggs, butter and hogs in good demand and very high; hog cholera prevalent, losses already heavy; nearly all corn cut and shocked; seedling will begin about October 1; fly did much damage to wheat in past two years.—H. C. Fawley.

Lebanon Co., Pa. (S. E.), Lebanon, September 22.—Clear. Live stock is in good shape and bringing good prices; corn, from \$60 to \$140; hogs, 12c dressed; hogs, \$15 to \$25; eggs, 34c; butter, 40c; potatoes, less than half crop; corn, an average crop; apples, a light crop; pastures good. Farm work is well advanced; considerable seedling has been done; many have started to cut corn, while others are filling silos.—William J. Bean.

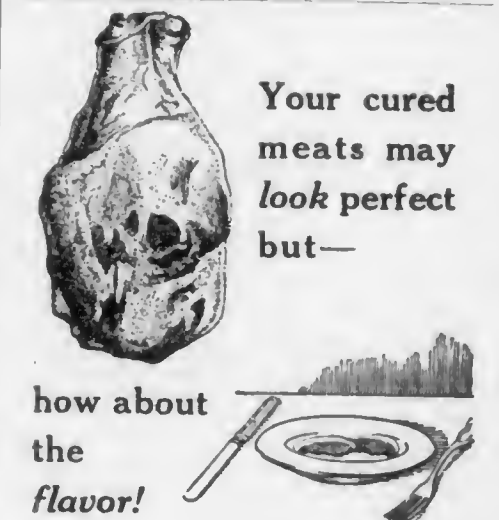
Wayne Co., Pa. (N. E.), September 23.—Clear and pleasant after heavy showers; stock looking well, most of which are kept in the barn during these chilly nights. The potato crop is poor; apples abundant where trees were sprayed, not much change in prices. Lots of winter grain in; silo filling the order of the day at present.—E. W. Carl.

Fayette Co., Pa. (S. W.), September 24.—Cool nights and local showers. Live stock still in great demand; summer drought injured the late pastures; corn silos about half filled; no fruit of any kind; no plowing done yet; too dry; silos filled and all crops in barns.—Harris.

Clinton Co., N. Y. (N. C.), September 20.—Very dry; many wells dry; pasture poor and cows thin; veals, 8c live; good cows, \$75 each; corn crop a failure; silos about half filled; no fruit of any kind; no plowing done yet; too dry; silos filled and all crops in barns.—Henry E. Gilbert.

Juniata Co., Pa. (C.), September 22.—Very dry, with local showers until 21st; good rains; wheat and oats medium yield; corn, 40 percent of normal; potatoes a failure; hogs, 8c, live weight; cows, \$50 to 80; veal calves, 8c; chickens, 15c to 15c; wheat, 85c; corn, \$1; oats, 40c; butter, 34c; eggs, 25c; apples, very short crop, but very fair quality. Farmers ready to sow wheat, but too dry so far; corn cutting up; pastures burned up; cattle being fed hay and fodder corn.—D. B. Esh.

Cumberland Co., N. J. (S. W.), September 22.—Heaviest rain of the season. Unusually large crop of tomatoes. Factories pay those having contracts, \$10 per ton. Boats from large cities began to pay 25 to 40 cents basket for first few days, but are now down to 12 to 15 cents basket. Grass seed coming up nicely; wheat ground being plowed; some corn cut; second crop potatoes in blossom. A number of silos have been filled and ensilage cutting outfits are kept very busy.—Corn J. Sheppard.



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60 Page Book Free. During September only. Includes our Store of Poultry, Ducks, Perches, Hares and Pigeons. J. A. BERRY, Tellico, Tenn.

Grange

LITERARY WORK IN THE GRANGE.

One can scarcely comprehend the amount or understand the full significance of the strictly literary work done in the subordinate granges of the country during a year's time. But few of the state granges keep so complete a record of this work as does New Hampshire and Massachusetts, hence it is to them that we may turn for some interesting figures. We quote from the report of State Lecturer Richardson, of Massachusetts, for 1912. Out of the 262 subordinate granges, reports were received from 234 and from 25 Pomona granges. These reports showed that there had been a total of 1,288 debates and discussions, 7,184 vocal selections, 5,195 other musical selections, 6,218 readings,



BAND LEADING FLORAL PARADE AT COLUMBIA CO. FAIR, N. Y.

1,471 papers read, 796 dramatic features presented, in which 6,399 persons took part, and 1,508 other features in which 20,797 engaged. These figures, says Mr. Richardson, would have been increased if all granges had reported. This is the work of one state's subordinate granges in the entire country, and making due allowance for a possible larger literary interest in Massachusetts than there might be in the average of subordinate granges elsewhere, the grand totals would be altogether incomprehensible. And yet this literary and educational work of the grange, stamps it as the one great farmers' organization that seeks preeminently the educational and social advancement of the farmer and his family. We also get a valuable side light just here on the sources of the grange's influence on public affairs, and on the representatives of the people in our halls of legislation.

Each state has its own public questions to be discussed and problems to be solved, and in so far as these questions bear upon the interest of the farmer you may rest assured they will be discussed in the granges of that state. National matters bearing upon the interests of agriculture generally are discussed in granges all over the land. Is it any wonder, then, that the grange as an institution is a monitor of public opinion? Is it to be for a moment doubted that it wields a powerful influence, directly and indirectly, on state and national legislation?

UNIQUE FEATURE OF COUNTY FAIR.

The Columbia County (N. Y.) Fair week was something more than a time for holding the annual agricultural exhibition. It took on the nature of an old home week, and the local Chamber of Commerce interested itself in bringing out the people. It was an admirable success all the way thru. The town was

decorated with flags and bunting, and by night electric lights and fireworks. Public speaking and singing patriotic songs by a choral club gave the occasion a peculiar interest to the large crowds attending.

The historical pageants produced on the fair grounds in the evening by 250 people were the crowning attractions of the week. These pageants reproduced historic scenes in many tableaux, all of which were taken from events in the history of the county. The first scene depicted the arrival of the first white man in the county, his rather "cool" reception by the Indians, but the final smoking of the pipe of peace.

The coming of the Palentine settlers was a very effective representation. These plain Germans rode in ox carts, drawn by several yokes of oxen, and on reaching their destination offered a prayer of thanksgiving. Another episode illustrated the murder of the patriot, Vanness, by Tories, at his home in the

bureau and experiment station men, and who read the farm papers, and have been richly rewarded by improved farms and the good coin of the realm. The Eastern farmer does not grow grain to sell from his farm in the raw state, but in the form of butter, milk, eggs, pork, beef, horseshoes or some other product of this class, and I know the price received for the big crop of 1912 per bushel thru these channels was as great as that for the 1911 crop.

Here in Indiana County we have been feeding some of that 1912 crop to 10-cent hogs, while both horses and cattle have ruled much higher than when feeding the 1911 crop. Any Eastern farmer who can get consolation for a short crop by thinking he will be better off than if he had a large crop, has a mighty well cultivated imagination.

Now, of course, the farmer has been slighted at times in matters of legislation, and never more so than in the recently passed tariff bill, but the farmers, as a class, are wide awake and will use the ballot to secure what they want without political speeches at farmers' institutes. I hear no malice what ever toward the Lancaster County contributor, but every one of the thousands of successful farmers in our own Keystone State is living proof of the incorrectness of his statement that legislation and not method is the all important consideration.—The Indiana Contian.

DEDICATION OF A GRANGER'S HOME

A unique and most interesting ceremony is the dedication of rural homes. It is not known by any great number of grange members that such a ceremony has ever been devised, but such is the fact and Mortimer Whitehead,

northern part of the county. Katrina Van Tassel's party brought to mind the scenes of Washington Irving's "Sleepy Hollow," and every detail of the historic party was worked out, even to the coming of Ichabod Crane and the headless horseman.

The presentation of the flag to the troops leaving the county for the Civil War formed the subject of another scene. A reception in the home of President Martin Van Buren was an effective reproduction, and the minuet was danced in all the stately grandeur of the day. The representation of such historic scenes of a local nature is a most interesting feature of the fair week program, and altho entailing a vast amount of work for many people it nevertheless makes a drawing card and is evidence of a spirit of enterprise that should exist in every community.

It should be said that the proceeds of the pageant entertainment, less expenses were turned over to the Village Improvement Association, an organization that is doing a grand work for the village of Chatham where the fair was held.—D.

METHOD VS. LEGISLATION.

I was interested and also somewhat amused by the article under this heading in a recent issue. I do not know the author, except by his writing in this paper. We have some men in our community, and I think in every community, who go about with much the same argument as the Lancaster county man, viz., legislate more dollars into the farmer's pocket and we won't need to bother about the two blades of grass idea.

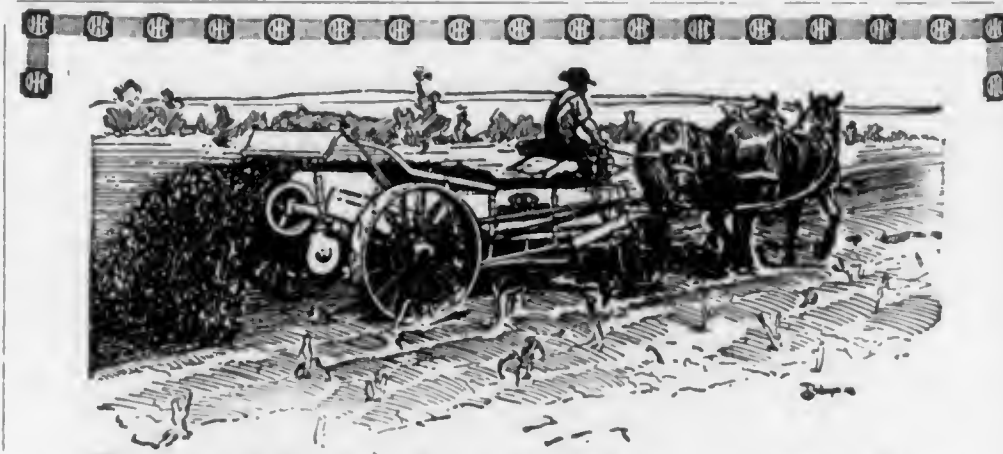
But all farmers are not in this class. There are always some who are ready to smile and exchange winks whenever one of these brothers with the chip on his shoulder, explains just what is wrong with this country. There are many who stop to listen to the farm

one of the first national grange lecturers, is the author of the ritual of dedication. In all the realm of grange ritualistic work there is scarcely anything more beautiful. In the master's opening address we find these words:

Almost as old as history, in all lands and among all peoples, has prevailed the custom of formal dedication of temples to the gods and goddesses; of Christian churches; of buildings devoted to learning, to science and the arts. We name our great ships as they are launched upon the waves, and we draw aside the flags which unveil monuments to our heroes of Peace and War. But it has been left for the Patrons of Husbandry, the organization that represents the tillers of the soil, . . . to provide the ceremonial work for dedicating the home to its high and holy mission, the service of God and of Humanity.

The ceremony of dedication is intended to be used out of doors, on the lawn or grounds, near the home. The arrangement of the officers' stations is familiar to members of the order. The name of the home is placed upon a banner or streamer hung in some conspicuous position and is to be concealed until the moment of unveiling. The entire ceremony is impressive and beautiful.

Our attention has been directed to the ceremonial by the recent dedication of a Patron's home in Pennsylvania in which the grange dedicatory work was used. We commend it to the favorable consideration of the granges of the country. Nothing is better calculated to impress upon the family as well as the community the mission of the home as the unit individual and collective improvement in the standards of living. The ceremony deserves more general use in every community.



Best-Hated of Farm Tasks

ON the spreaderless farm the thought of the great heaps of manure piling up constantly in barn yards, stables, and stalls, is a gloomy one. Those piles mean much disagreeable and hard work. Three times every bit must be handled. It must all be loaded onto high wagons. It must be raked off in piles in the fields. Then every forkful must be shaken apart and spread.

Compare that old-fashioned method with the spreader way. You pitch the manure into the spreader box, only waist high, drive out and — the machine does all the rest.

And, far more important, if you buy an I H C spreader one ton of manure will go as far as two tons spread by hand, with the same good effect on the soil, and it will all be spread evenly.

I H C Manure Spreaders

are farm necessities. The man who uses one will get the price of it back in increased crops before its newness has worn off.

I H C spreaders are constructed according to plans in which every detail, every feature, is made to count. They are built to do best work under all circumstances, and to stand every strain for years. They are made in all styles and sizes, for small farms and large, low and high machines, frames of braced and trussed steel. Uphill or down, or on the level, the apron drive assures even spreading, and the covering of corners is assured by rear axle differentials. In all styles the rear axle is placed so that it carries near three-fourths of the load. This, with the wide-rimmed wheels with Z-shaped lugs, makes for plenty of tractive power. Winding of the beater is prevented by large diameter and the beater teeth are long, strong and chisel pointed.

A thorough examination of the I H C spreader line, at the store of the local dealer who sells them, will interest you. Have him show you all these points and many more. Study the catalogues you can get from him, or write the



WHERE ROAD WORK IS NEEDED.

It isn't money we need so much in Pennsylvania just now as it is road work. Our Highway Department needs to understand the problems of the country road traveler and how to apply the remedy with what money is at hand. It now possesses the legal power to organize our country earth roads into one complete state-wide system, and the system which will give us good country earth roads is the King drag patrol system. But can we get this improvement this year? Can we ever get it with the present kind of officials? Mr. Foster, the chief highway engineer, thinks the only "real road" as he expressed one time, is the high-priced macadam roadway. With this sort of road engineers in command of \$50,000, road money it is plain to infer how much attention will be given to getting roads made respectable and kept so.

Over in New York State it was discovered within the past two months that thousands of dollars of money appropriated for road purposes did not get into permanent road improvement. Forty separate macadam roads were examined in 22 counties. In but one instance were these roads up to the standard, making a clean cut efficient job all over. There were only three roads out of the entire 40 investigated which could pass muster. One brand new road was accepted on February 26 of this year by the Highway Department. It was a typical, high-priced contract road. Already this new road is advertised for repairs. Another road at \$15,000 per mile just finished its current year is already on the list for advertised repairs. Lots of men on the roads to work were merely official ward heelers. Some of them didn't even have any such position, while others were barbers, liquor dealers and just plain members of the "league of heavy lifters."

The story of New York's fifty-millions for roads is a trail of shame and her incompetency. Why, indeed, should Pennsylvania go on a similar deal when we do not have efficient officials or knowledge as to how to construct a durable economic roadway? Hadn't we better learn first as to what road engineers really practical as well as scientific in helping us with our country earth road problems? Hadn't we better get a system of state-wide earth road improvement started first? (I don't mean a system of improvement. I mean the solid evidence and the feel that comes from driving over the earth road in winter and summer).

Then we will have learned more about the construction of stone roads capable of resisting the wear and tear of automobile and other destructive traffic. By that time we will know who we are going to trust to spend our road money. To jump into this \$50,000 bond issue and say "yes" just now is wrong. It's about on a par with a man who goes into the stock market and "tips." After he has lost all his money and is deeply in debt, he begins to learn something. Of course, we all like to pay for our education. Many of our experiences are charged up with profit and loss, but this \$50,000,000 is a big sum to swing just now.

We need more work upon our earth roads, the sort of practical, yet scientific, workmanship which gives a good, respectable, durable job—a real dollar's worth for every dollar expended. This our Highway Department has the legal power to do, but it hasn't the inclination. There's a whole rub with Commissioner Bigelow's administration. Their inclination is centered chiefly about the \$15,000 to \$50,000 per mile macadam roadways. It is emphatically a wrong to im-

agine for one moment that a road to be good must be built of cement or of brick or of plain macadam or the higher priced asphalt macadam. The major thing about any road is its drainage. The highest priced and finest engineered roadway will go to pieces if it is not kept well drained. This identical principle applies in our earth road problems. They first must be surveyed, drained and graded. Then they must be maintained all the year round by patrol dragging.

This is all there is to it. I know exactly wherein I speak. Right here in my own home township of East Lampeter, Lancaster County, for six years I was engaged in the improvement of our township earth roads. As a country doctor I had to drive them, rain or shine, frozen or thawed. Within the period of one year, by means of an organized King drag patrol system, we transformed our undrained road mileage of ruts and sink holes into one complete system of crowned, cleanly drained and firmly packed country roadways that shed water instead of soaked it up, and that had very little dust during the driest spells of the summer. Incidentally our taxes was reduced one-half mill.—Dr. Donald McCaskey, Lancaster Co., Pa.

Looking Over The Fence.

By THE COUNTRY PARSON.

"Foolish Nonsense Instruction."

My Danish friend, Knut, who lives in Charles County, Md., has a supreme contempt for what he calls "college talk and professors and others writing in papers." According to him all this is "foolish nonsense, not worth the paper it is written on." The only man who really knows anything about farming is the man who has spent his life plodding between two plow handles. What he thinks of a country parson writing for an agricultural journal need no telling.

It by no means follows that Knut is lacking in shrewdness and good sense. In a deal or trade it takes what we in Maryland call "a right smart chap" to get ahead of him. His comments on men and affairs are often surprising, apt and to the point. He also writes poetry, which he sends to the Danish papers. So far as I can judge, his poems have real feeling. Their favorite theme is "Danneborg," or Denmark, the fatherland, with its ocean-embowered coasts, its beech trees and quiet hamlets, where the graves of the ancestors surround the village church whose bell calls the wanderers home.

I remarked on this to him and his reply is worth repeating. "No man," said Knut, "who talks bad about his mother will ever talk good of his step-mother." This, I think, is worth remembering, especially by those people who imagine that the best thing you can do for an immigrant is to so completely "Americanize" him that he feels or at least pretends to feel only disgust for the home of his ancestors.

Knut also has theories of his own. He, for instance, is persuaded that Denmark, which was formerly a grain-growing and grain-exporting country, and which has now gone into dairying, cannot indefinitely continue to work on these lines and prosper. He points to the spread of bovine tuberculosis in proof of his contention. He maintains that just as a piece of land needs frequent rotation of crops, if it is to continue its productiveness, so entire countries also need rotation of their system of agriculture if they are not to get into a rut and fall back in the race for

agricultural supremacy. It is not exactly clear to him what particular line Denmark ought to take up, but he vigorously insists that it cannot continue indefinitely along present lines without some kind of national rotation.

There may be something in his theory. The Eastern Shore of Maryland once grew nothing but grain and peaches. Soil impoverishment and the "Yellows" put an end to that. Now it is growing truck, especially tomatoes. It looks as if the "Wilt" will some day put an end to that. It is not too early to ask: What then? So far as I can see it will have to be grass and cattle—a great big rotation. After that we may start all over again for grass is the foundation of all rotation. But this is a digression. Let us come back to Knut and his opinion of teachers of agriculture.

With all his native shrewdness and keen observation, he refuses to believe that any man can possibly know anything about farming unless he actually spends all of his time at hard work. For the agricultural lecturer or teacher he has only contempt. How can a man whose entire knowledge is gotten out of books teach a practical farmer anything? As for the man who writes "foolish nonsense" in agricultural papers, he is beneath contempt.

I fear that in this attitude my friend Knut is not alone. It is shared by many farmers, who not only refuse to give their sons an agricultural education, but who look with considerable mistrust upon the activities of experiment stations and farmers' institutes as well as the "experiment station talk" put forth by agricultural journals.

The other day I visited Knut in the company of another friend who describes himself as "an Irishman of German extraction from Limerick." This man happened to pick up an agricultural paper to read an article which aroused his interest. Knut could not withstand the temptation to again give me his opinion of people who write

"foolish nonsense" for farm papers. I answered him as well as I could, but I fear that my replies to his sweeping statements made but very little impression. Suddenly I saw the Irishman put down his paper. I knew something was coming. With just the faintest suspicion of a brogue, he said this: "I think a man may learn a thing in two ways—either by studying what other people have said or done, or by doing things himself. It is best that the two should go together. It is, however, not always necessary that they should go together. A man may thoroughly understand a theory without having the strength or the ability to put that theory into practice. He leaves that to other men."

"I do not believe that Sir Henry Bessemer, the man who worked out the Bessemer process of making steel by blowing air thru molten pig iron ever worked in a blast furnace or handled a puddling stick in his life. He was an engineer and a chemist—a student and a scientist—one of these people who talk and write 'foolish nonsense.' But he revolutionized the steel business of the world. He left the handling of a puddling stick to fellows like you."

For once Knut had no reply ready. I do not believe that he is convinced. I must say that I am more than curious to see him try to get away from the terrific force of the Irishman's logic.

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So, Cypress Mfrs' Ass'n., 111 Albermar Bank Bldg., New Orleans, La. Please send me the books, FREE, as marked in the following squares:
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This is a good dependable watch and better for a boy than higher priced ones as it will stand a lot of hard usage.

It is 16 size, open face, stem-wind and set, nickel case and a good time-keeper.

Send us 12 new trial subscriptions to Pennsylvania Farmer at 10 cents each to Jan. 1, 1914, and we will send the watch postpaid.

Any bright boy with a little hustle in his makeup can earn this watch in a day or at most two.

PENNSYLVANIA FARMER, 214 South 12th Street, Philadelphia, Pa.

Household

FALL DAYS IN BEAUTIFYING THE HOME GROUNDS.

You have decided that some improvement must be made on the home grounds this fall, of course. You know that it increases the value of your farm to have beauty as well as grain. There must be some new trees set, perhaps.

They should be massed well to the rear of your house, if it sets near the road; as it gives a more extensive appearance to your lots. On the west side of the house set some rapid-growing trees, say the button-ball, as that will insure shade in the long afternoons of the hot months. Some evergreens must, of course, have a place on the grounds. These look best if set in clumps, several kinds together allowing for the growth. I have found evergreen make a fine shade in the chicken yard. Shade from the hot sun in the summer and a dry sun bath late in the fall, may be had in the shelter. If the useful out-buildings look shabby, set a wild grape, or a hop vine near them, and in front of that some golden-glow roots. You will be delighted at the result.

On a farm I visited the other day, a woman taught me a new twist. She

Regarding a flower-border, I have never seen such results for radiant glory as the scarlet sage makes. It grows readily from seed and is hardy, and will grow where all else refuses to bloom. Set in front of even the common sun-flower, it is splendid in the late summer days. Remember that the hoe used along your border will repay the few moments spent every two weeks.—Harriet L. Lockwood.

HOW FARM PAPERS HELP.

While waiting in the country store for my order to be filled, a woman entered and was introduced to me as an agent for a farm paper. We already had a paid-up subscription for several years in advance to this paper, so I indicated a group of men conversing in another part of the store, telling her that they were all farmers who were taking holiday on that rainy afternoon.

One man refused to take the paper, saying that he already took one, and found it more than he could read. Another who took half a dozen and married to take any more. Another contended that "farm papers are no good." This made me think of my neighbor's plan, which we have also used, and so I would like to tell others.

First, all farm papers are saved and

farm, its needs and problems, but I believe most farmer's wives are, for where must there be such a close partnership, such a working to each other's interests, if success is to be assured, as on the farm. This deep interest is a help to both, bringing closer companionship, better understanding of each other and weaving the lives of these two closer together.

So, busy women, try talking farming with your husbands; try reading the agricultural papers for them, and see the pay in both happiness and dollars.—The Country Housekeeper.

DAHLIA GARDEN FOR THE FARM.

If you have ever seen a good dahlia garden, you have wanted one for your own.

The accompanying picture shows a garden at the side of the house so arranged that the occupants get the benefit of the flowers from the dining room windows. The garden itself is a beautiful thing and the flowers are unsurpassed for cutting to make bouquets for the house. Get a number of varieties and give them thoro culture.

The tubers may be left in the ground over winter or taken up. The best way is to take them up and store them in a dry place where they will not freeze. You will be able to increase your garden from year to year, for the tubers send out side shoots that will develop into new plants.—John Y. Benty.

HOW TO PRESERVE CIDER.

Cider is a relished beverage, especially before it becomes too strong or "hard." For those who want to keep it sweet for winter use, the following method will be found desirable:

If about four ounces of salicylic acid is used to the barrel, the cider may be kept sweet for a long time. If a less quantity is to be preserved, the acid should be used in proportion. It should be dissolved thoroughly and mixed with the cider before the cider has begun to ferment. An objection to the use of any preservative is that anything that will check the fermentation in the cider also will check fermentation in the stomach, and thus interfere with proper digestion. But when the cider is drunk in moderate quantities the effect will not be very harmful.

Another preparation that makes an excellent drink from cider is to let it ferment until it has reached the desired taste. Then put it into quart bottles, putting a raisin and a clove in each bottle, tightly cork it and put it in a cool cellar for about three months. The cork should be wired in and opened very carefully to let the gas escape gradually. Otherwise the gas in the bottle is apt to force the contents out all over the room. It is not safe to put in more than one raisin.—L. J. Haynes, Erie Co., Pa.

MAKING USE OF PUMPKINS.

By Hilda Richmond.

Baked Pumpkin.—Cut the pumpkin into long ribs or strips after washing it well and bake till done in a steady oven. The ribs can be served whole or the baked pumpkin can be scraped out and served as a vegetable with butter dressing. If any is left it will do nicely for pies.

Pumpkin Butter.—Cut up the pumpkin into small bits as for pie and stew slowly till done. Then add half as much sugar and put in a safe place to cook very slowly. A hint of spice, like nutmeg or cloves, improves it but only a very little should be added not to darken it.

Another Pumpkin Butter.—Take sweet, fresh cider and fill the kettle



Mr. Thoughtful: "Hello, Anty! D'ye see what I'm doing? Making a Fireless Cooker for Mandy. My land!—we won't have to keep a fire for anything any more, what with cooking in this contraption and doing washing and all the other work with Fels-Naptha Soap and cool or lukewarm water. Mandy buys Fels-Naptha by the box."

The weekly wash is the hardest work a woman can do unless she uses Fels-Naptha Soap and makes her work easy.

Fels-Naptha works best in cool or lukewarm water—dissolves grease, makes dirt disappear, takes out all kinds of stains. Soap the clothes well, put them to soak for 30 minutes and you need do no hard rubbing and no boiling, because there is no dirt left to need it.

Easy directions are on the red and green wrapper.

Buy it by the carton or box
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October 4, 1913

after it has been packed as full as possible with pumpkin. Space must be left to boil, of course. Care must be taken to use only enough cider to cook well. When the pumpkin is tender, add 3 cups of sugar to each 5 cups of butter and cook slowly till thick and rich.

Pumpkin Pies.—Take one pint of pumpkin pulp to two pies and beat with three eggs, sugar to taste, a pinch of salt, one scant teaspoonful of corn starch, one-fourth teaspoonful each of ginger, cloves, nutmeg and cinnamon and one quart of rich sweet milk. This will make two medium-sized pies.

Pumpkin Custard.—Beat together two cups of pumpkin, one cup of sugar, three eggs of milk, four eggs, pinch of salt and spices to taste. Ginger, all spices, cloves, nutmeg and cinnamon are all well, but in very small quantities. Bake in a moderate oven. Be careful not to get too much sugar, as it will be watery. Bake slowly.

Another Pumpkin Pie.—One cup of pumpkin, one pint of rich milk, two eggs, sugar to taste, pinch of salt, pinch of ginger, cloves and cinnamon and one teaspoonful of corn starch dissolved in cold milk.

THE FLORAL ROMANCE.

The following romance told in questions answered by names of common flowers may be arranged for a pleasant time at home parties. The questions to be given out on cards, each guest to write in the answer, or select flowers indicated by the hostess, to represent the answers. The questions follow, to the answer in parenthesis:

What was her name? (Rose or Lily).
What did she say about marrying? (Marigold).
When a lover proposed to her on his knee what did she say? (Johnny-jump-up).

When he went away what did she tell him? (Bachelor's buttons).
Whom did she say she loved more? (Sweet William).
When he proposed what did she say? (Poppy).

What did Sweet William bring her? (Heart's ease).
Where did she get the buttons for her new dress? (From the button bush).
What did she wear on her hands? (Gloves).

What on her feet? (Lady's slippers).
Who married them? (The cardinal, as told by Jack-in-the-pulpit).
What time was the wedding? (At a'clock).

What presents. (A shepherd's crook, a hare bell and a great candle).
What nickname did they give their son? (Gen. Jaeger).
What did he play with? (A rattle).
What did they whip him with? (A cat o' nine tails).

What would he do then? (Balsam—some).
What did they whip him with? (A cat o' nine tails).

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this material, place a piece of paper, not too stiff, on the wrong side. Stitch back and forth on the sewing machine to cover the spot. The paper will keep the material from puckering and will come off when the garment is washed. This looks much better than patching and is more rapidly done.

Laundering Drawnwork.—Often when a piece of drawnwork is laundered, the edges will ruffle and have anything but a pleasing appearance. This can be avoided by first placing a cloth over your table and stretching the piece tightly, pinning it to the pad to hold it securely in place. Then press as usual with a moderately warm iron.

Sewing on Lace.—When sewing crocheted lace on a skirt, apron or other article, make the crease for the hem first; then lay the goods out flat, place the lace on right side down and stitch on sewing machine (or by hand), following the crease, turn the lace down and finish the hem as usual. The work is quickly and easily done and has a neat appearance.

Buttonholes.—After having buttonholed scallops do not cut away the goods close to the linen, but leave a narrow margin, which may be felled down smoothly on the wrong side. This effectively prevents fraying, no matter how frequently the article may be laundered.

Stitching Seams.—When stitching seams on the machine in a silk garment, use either fine cotton or one thread cotton and the other of silk. By doing so you will obviate any puckering of the seams.

Buttonholes.—In order to work buttonholes in heavy linen or other coarse material, first mark with a pencil a straight line the size you want the buttonhole to be; sew twice around this, just as the it were cut, then work as for buttonholes, only do not cover the mark. When the buttonholing is completed, cut carefully along the line, taking care not to clip the stitches.

Luncheon Set.—A very pretty luncheon set can be made of flowered cretonne. Purchase rose-flowered cretonne and cut six circles, each for plate and glass doilies and one large one for the centerpiece. Allow a half-inch for turning under to produce a neat finish. Overcast this narrow hem by hand, and border the doilies with cluny lace three inches in width. This set is most effective when used on a highly polished table.

Comforters.—When making comforters, wrap the rolls of batting in newspapers, place in oven one at a time and leave there until thoroughly heated. The batting will retain its fluffiness much longer.

Cabbage Soup.—One small cabbage, two cupsful of water, two cupsful of milk, three slices of onion, four tablespoonfuls of butter, one teaspoonful of salt, one-eighth of a teaspoonful of pepper, a few grains of cayenne, and two tablespoonfuls of flour. Chop cabbage, add water, and cook until tender; press thru a sieve. Melt butter, add chopped onion, cook slowly five minutes, add flour, scalded milk, cabbage mixture; cook five minutes. Add seasonings, strain and serve.

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6059—Ladies' Yoke Shirt Waist.—Five sizes, 34 to 42 inches, bust measure. Size 36 requires 2½ yards of 36-inch material. Price of pattern, 10 cents.

6381—Ladies' Dress (closed at front).—Five sizes, 34 to 42 inches, bust measure. Size 36 requires 4½ yards of 36-inch material. Price of pattern, 10 cents.
6387—Ladies' Guimpe and Collars.—Three sizes, small, medium and large. Medium size requires for guimpe, 1½ yards of 36-inch material; for collar No. 2, ¼ yard of 27-inch material; for collar No. 3, ½ yard of 27-inch material. Price of pattern, 10 cents.



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Winston of the Prairie

By HAROLD BINDLOSS

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SYNOPSIS OF PREVIOUS CHAPTERS.

Rancher Winston, the hero of the story, having lost out on his farming operations, due to a combination of discouraging circumstances, is approached by Lance Courthorne, adventurer, who proposes that for a money consideration, Winston simulate him (Courthorne) by riding his horse and wearing his clothes, thus misleading government officials so that Courthorne and his pals may smuggle thru some illegal distillery products. Driven to desperation, Winston accepts. Trooper Shannon (Irish), and Trooper Payne (English), bosom friends, are members of the Northwest police patrol force, appointed to capture the smugglers. The latter, who had left his position in a distinguished family in England, presumably because of his love for Ailly Blake, sister of Payne's chum, Larry Blake, following them to the Canadian country, is only waiting for a chance to get revenge on Courthorne for his part in having spirited away Ailly Blake and delivering her to a life of shame. Payne has already had several encounters with Courthorne and it is thru Payne that Sergeant Stimson, commander of the police, has discovered the smuggling operations. The present installment continues a conversation between Sergeant Stimson and Trooper Payne, concerning Courthorne's capture.

CHAPTER III.—(Continued).

"Then," he said dryly, "we'll give you a chance of helping us to put the handcuffs on him. Now, because they wouldn't risk the bridge, and the ice is not thick yet everywhere, there are just two ways they could bring the stuff across, and I figure we'd be near the thing if we fixed on Graham's Pool. Still, Courthorne's no kind of fool, and just because that crossing seems the likeliest he might try the other one. You're ready for duty, Trooper Payne?"

The lad stood straight. "I can turn out in ten minutes, sir," he said.

"Then," and Sergeant Stimson raised his voice a trifle, "you will ride at once to the rise a league outside the settlement, and watch the Montana trail. Courthorne will probably be coming over from Winston's soon after you get there, riding the big black, and you'll keep out of sight and follow him. If he heads for Carson's Crossing, ride for Graham's at a gallop, where you'll find me with the rest. If he makes for the bridge, you will overtake him if you can and find out what he's after. It's quite likely he'll tell you nothing, and you will not arrest him, but bearing in mind that every minute he spends there will be a loss to the rustlers you'll keep him as long as you can. Trooper Shannon, you'll ride at once to the bluff above Graham's Pool and watch the trail. Stop any man who rides that way, and if it's Courthorne keep him until the rest of the boys come up with me. You've got your duty quite straight, both of you?"

The lads saluted, and went out, while the sergeant smiled a little as he glanced at the farmer and the men who were dressing.

"It's steep chances we'll have Mr. Courthorne's company tomorrow, boys," he said. "Fill up the kettle, Tom, and serve out a pint of coffee. There are reasons why we shouldn't turn out too soon. We'll saddle in an hour or so."

Two of the men went out, and the stinging blast that swept in thru the door smote a smoky smear across the blinking lamp and roused a sharper cracking from the stove. Then one returned with the kettle and there was silence, when the fusty heat resumed its sway. Now and then a tired trooper murmured in his sleep, or there was a snapping in the stove, while the icy wind moaned about the building and the kettle commenced a soft sibilation, but nobody moved or spoke. Three shadowy figures in uniform sat just outside the light, soaking in the grateful warmth while they could, for they knew that they might spend the next night unsheltered from the arctic cold of the

wilderness. The sergeant sat with thoughtful eyes and wrinkled forehead, where the flickering radiance forced up his lean face and silhouetted his spare outline on the rough boarding behind him, and close by the farmer sucked silently at his pipe, waiting with a stony calm that sprang from fierce impatience the reckoning with the man who had brought black shame upon him.

It was about this time when Winston stood shivering a little with the bridle of a big black horse in his hand just outside the door of his homestead. A valise and two thick blankets were strapped to the saddle, and he had donned the fur cap and coat Courthorne usually wore. Courthorne himself stood close by smiling at him sardonically.

"If you keep the cap down and ride with your stirrups long, as I've fixed them, anybody would take you for me," said he. "Go straight through the settlement, and let any man you come across see you. His testimony would come in useful if Stimson tries to fix a charge on me. You know your part of the bargain. You're to be Lance Courthorne for a fortnight from today."

"Yes," said Winston dryly. "I wish I was equally sure of yours."

Courthorne laughed. "I'm to be Rancher Winston until tomorrow night, any way. Don't worry about me. I'll borrow those books of yours and improve my mind. Possible starvation is the only thing that threatens me, and it's unfortunate you've left nothing to eat behind you."

Winston swung himself into the saddle, a trifle awkwardly, for Courthorne rode with longer stirrup leathers than he was accustomed to, then he raised one hand, and the other man laughed a little as he watched him sink into the darkness of the shadowy prairie. When the drumming of hoofs was lost in the moaning of the wind he strode towards the table, and taking up the lantern surveyed Winston's horse thoughtfully.

"The thing cuts with both edges, and the farmer only sees one of them," he said. "That beast's about as difficult to mistake as my black is."

Then he returned to the lighthouse, and presently put on Winston's old fur coat and tattered fur cap. Had Winston seen his unpleasant smile as he did it, he would probably have wheeled the black horse and returned at a gallop, but the farmer was sweeping across the waste of whitened grass at least a league away by this time. Now and then a half-moon blinked down between wisps of smoky cloud, but for the most part gray dimness hung over the prairie, and the drumming of hoofs rang stridently through the silence. Winston knew a good horse, and had bred several of them—before a blizzard which swept the prairie killed off his finest yearlings as well as their pedigree sire—and his spirits rose as the splendid beast swung into faster stride beneath him.

For two weeks at least he would be free from anxiety, and the monotony of his life at the lonely homestead had grown horribly irksome. Winston was young, and now, when for a brief space he had left his cares behind, the old love of adventure which had driven him out from England once more awakened, and set his blood stirring. For the first time in six years of struggle he did not know what lay before him, and he had a curious, half-instinctive feeling that the trail he was traveling would lead him farther than Montana. It was

borne in upon him that he had left the old hopeless life behind, and stirred by some impulse he broke into a little song he had sung in England and long forgotten. He had a clear voice, and the words, which were filled with the hope of youth, rang bravely through the stillness of the frozen wilderness until the horse blundered, and Winston stopped with a little smile.

"It's four long years since I felt as I do tonight," he said.

Then he drew bridle and checked the horse as the lights of the settlement commenced to blink ahead, for the trail was rutted deep and frozen into the likeness of adamant, but when the first frame houses flung tracks of yellow radiance across the whitened grass he dropped his left arm a trifle, and rode in at a canter as he had seen Courthorne do. Winston did not like Courthorne, but he meant to keep his bargain.

As he passed the hotel more slowly a man who came out called to him, "Hello, Lance! Taking the trail?" he said. "Well, it kind of strikes me it's time you did. One of Stimson's boys was down here, and he seemed quite anxious about you."

Winston knew the man, and was about to urge the horse forward, but in place of it drew bridle, and laughed with a feeling that was wholly new to him as he remembered that his neighbors now and then bantered him about his English, and that Courthorne only used the Western colloquialism when it suited him.

"Sergeant Stimson is an enterprising officer, but there are as keen men as he is," he said. "You will, in case no questions you, remember when you meet me."

"Oh, yes," said the other. "Still, I wouldn't fool too much with him—and where did you get those mittens from? That's the kind of outfit that would suit Winston."

Winston nodded, for the he had turned his face from the light the hand he held the bridle with was visible, and his big fur gloves were very old.

"They are his. The fact is, I've just come from his place," he said. "Well, you can tell Stimson you saw me starting out on the Montana trail."

He shook the bridle, laughed softly as the frame houses flitted by, and then grew intent when the darkness of the prairie once more closed down. It was, he knew, probable that some of Stimson's men would be looking out for him, and he had not sufficient faith in Courthorne's assurances to court an encounter with them.

The lights had faded, and the harsh grass was crackling under the drumming hoofs when the blurred outline of a mounted man showed up on the crest of a rise, and a shout came down.

"Hello! Pull up there a moment, stranger."

There was nothing alarming in the greeting, but Winston recognized the ring of command, as well as the faint jingle of steel which had preceded it, and pressed his heels home. The black swung forward faster, and Winston glancing over his shoulder saw the dusky shape was now moving down the incline. Then the voice rose again more commandingly.

"Pull up, I want a talk with you."

Winston turned his head a moment, and remembering Courthorne's English flung back the answer, "Sorry I haven't time."

The faint musical jingle grew plain, as yet, and Shannon, who had been riding hollowly under him, surmised while it might be possible to lead the laden horse across, there would be risk attached to the operation. That reason, and altho his opinion had not been asked, he agreed with Sergeant Stimson that the whisky-runners would attempt the passage. They were

match the one he rode. Still, it was evident that the trooper meant to overtake him, and recollecting his companion he tightened his grip on the saddle. It was a long way to the ranch where he was to spend the night, and he knew that the further he drew the trooper the better it would suit Courthorne.

So they swept on through the darkness over the empty waste, the trooper who was riding hard slowly creeping up behind. Still, Winston held the horse in until a glance over his shoulder showed him that there was less than a hundred yards between them, and he fancied he heard a portentous rattle as well as the thud of hoofs. It was as unlike that made by a carbine firing across the saddle. This suggested pleasant possibilities, and he slackened his grip on the bridle. Then a brainless shout rang out, "Pull up or I'll fire."

Winston wondered if the threat was genuine or what is termed "bluff" in that country, but, as he had decided on ejections to being shot in the back, please Courthorne, sent his heels home.

The horse shot forward beneath him, and, tho no carbine flashed, the backward glance showed him that the distance between him and the pursuer was drawing out, while when he stared ahead again the dark shape of willow or birches cut the sky-line. As the came back to him the drumming of hoofs swelled into a staccato roar, and presently the trail grew steep, and he was swayed above him.

In a few minutes something smooth and he flung back a blink of light, and the thud of a wooden bridge rattled under his passage. Then he was racing upward through the gloom of wind-dented birches on the opposite side listening for the rattle behind him on the bridge, and after a struggle with the horse pulled him up smoking when he did not hear it.

There was a beat of hoofs across the river, but it was slower than when he had last heard it and grew momentarily less audible, and Winston laughed as he watched the steam of the horse's own breath rise in a thin white cloud.

"The trooper has given it up, now for Montana," he said.

CHAPTER IV.

In the Bluff.

It was very dark amid the birches where Trooper Shannon sat motionless in his saddle gazing down into the denser blackness of the river below. The stream ran deep below the level of the prairie, as the rivers of the country usually do, and the trees there alone found shelter from the wind, straggled, gnarled and stunted, on either side of the steep declivity.

Behind the trooper a sinuous trail stretched away across the empty prairie, forked on the outskirts of the bluff, and one arm dipped steeply to the river where, because the stream ran slowly, there and the bottom was firm, a big man might cross when the water was low, and heavy sledges make the passage on the ice in winter time.

Other arm twisted in and out among the birches towards the bridge, but the detour increased the distance to any traveling north or south by two leagues or so.

The ice, however, was not very thick as yet, and Shannon, who had been riding hollowly under him, surmised while it might be possible to lead the laden horse across, there would be risk attached to the operation. That reason, and altho his opinion had not been asked, he agreed with Sergeant Stimson that the whisky-runners would attempt the passage. They were

who took the risks as they came, and that route would considerably shorten the journey it was especially desirable for them to make at night, while it would, Shannon fancied, appear probable to them that if the police had word of their intentions they would watch the bridge. Between it and the frozen ford the stream ran faster, and the trooper decided that no mounted man could cross the thinner ice.

It was very cold as well as dark, for altho the snow which usually precedes the frost in that country had not come as yet, it was evidently not far away, and the trooper shivered in the blasts from the pole which cut thru fur and leather with the keenness of steel. The temperature had fallen steadily since morning, and now there was a presage of a blizzard in the moaning wind and murky sky. If it broke and scattered its blinding whiteness upon the roaring blast there would be but little hope for any man or beast caught shelterless in the empty wilderness, for it is beyond the power of anything made of flesh and blood to withstand that cold.

Already a fine haze of snow swirled between the birch twigs every now and then, and stung the few patches of the trooper's unprotected skin as tho they had been pricked with red-hot needles. It, however, seldom lasted more than a minute, and when it whirled away, a half moon shone down for a moment between smoky clouds. The uncertain radiance showed the thrashing birches rising from the hollow, row on row, struck a faint sparkle from the ice beneath them, and then went out leaving the gloom intensified. It was evident to Shannon that his eyes would not be much use to him that night, for which reason he kept his ears uncovered as the risk of losing them, but tho he had been born in the bush and all the sounds of the wilderness had for him a meaning, hearing did not promise to be of much assistance. The dim trees roared about him with a great thrashing of twigs, and when the wilder gusts had passed there was an every moaning thru which came the murmur of leagues of homestead grasses. The wind was rising rapidly, and it would, he fancied, drown the beat of approaching hoofs as well as any cry from his comrades.

Four of them were hidden amidst the birches where the trail wound steeply upwards thru the bluff across the river, two on the nearer side not far below, and Trooper Shannon's watch would serve two purposes. He was to let the rustlers pass him if they rode for the ford, and then help to cut off the retreat of any who escaped the sergeant, while if they found the ice too thin for loaded beasts or rode towards the bridge, a dash from his carbine would bring his comrades across in time to join the others who were watching that trail. It had, as usual with Stimson's schemes, all been carefully thought out, and the plan was eminently workable, but unfortunately for the grizzled sergeant a better brain than his had foreseen the combination.

In the meanwhile the lad felt his limbs grow stiff and almost useless, and a lethargic numbness blunt the keenness of his faculties as the heat went out of him. He had more than usual endurance, and utter cold, thirst, and the hunger that most ably helps the frost, are not infrequently the portion of the wardens of the prairie; but there is a limit to what man can bear, and the troopers who watched by the frozen river that night had almost reached it. Shannon could not feel the stirrups with his feet. One of his ears was tingling horribly as the blood that had almost left it resumed its efforts to penetrate the congealing flesh, while the mittens he had beat upon his breast fell wildly on his wrappings without sen-

arate motion of the fingers. Once or twice the horse stamped fretfully, but a touch of hand and heel quieted him, for tho the frozen flesh may shrink, unwavering obedience is demanded equally from man and beast enrolled in the service of the Northwest police.

"Stiddy, now," said the lad, partly to discover if he still retained the power of speech. "Sure ye know the order that was given me, and if it's a funeral that comes of it the government will bury ye."

He sighed as he beat his hands upon his breast again, and when a flicker of moonlight smote a passing track of brightness athwart the tossing birches his young face was very grim. Like many another trooper of the Northwest police, Shannon had his story, and he

remembered the one trace of romance that had brightened his hard bare life that night as he waited for the man who had dissipated it.

When Larry Blake moved West from Ontario, Shannon, drawn by his sister's dark eyes, followed him, and took up a government grant of prairie soil. His dollars were few, but he had a stout heart and two working oxen, and nothing seemed impossible while Ailly Blake smiled on him, and she smiled tolerably frequently, for Shannon was a well-favored lad. He had worked harder than most grown men could do, won one good harvest, and had a few dollars in the bank when Courthorne rode up to Blake's homestead on his big black horse. After that, all Shannon's hopes and ambitions came down with a crash;

and the day he found Blake gray to face with shame and rage, he offered Sergeant Stimson his services. Now he was filled with an unholy content that he had done so, for he came of a race that does not forget an injury and has sufficient cause for a jealous pride in the virtue of its women. He and Larry might have forgiven a pistol shot, but they could not forget the shame.

(To Be Continued).

Stranger (looking at state building at great exposition)—And it cost \$75,000 to put up this insignificant structure! You astonish me.

Attendant—Oh, dear, no! That was merely the sum the state paid for it.—Chicago Tribune.



On the Firing Line

in every walk of life you'll find good old honest "Bull" Durham Tobacco in the homely 5-cent muslin sack. Men of action, men with red blood in their veins, who do the world's work, and do it well, learn to appreciate things at their *real* worth. They are not fooled by frills—they demand *honest* value.

These are the millions of men all over the earth who smoke "Bull" Durham, because this *pure*, good, honest tobacco—rich, mellow and fragrant, as nature made it—unspoiled by "processes" and doctoring—affords them a *real* and *lifelong* enjoyment, a *complete* and *lasting* satisfaction that no other tobacco in the world can give!

GENUINE "BULL" DURHAM SMOKING TOBACCO

(Forty "rollings" in each 5-cent muslin sack)

The millions of "Bull" Durham smokers are *proud* of that homely muslin sack, because they know that the quality is *all in the tobacco*—where it belongs! They know that when tobacco is packed in costly, painted tins or sold with "premiums," the smoker has to *pay* for them—and he cannot *smoke* the tins or the "premiums."

"Bull" Durham has been the standard smoking tobacco of the world for *three generations*! Get a 5-cent muslin sack at the nearest dealer today—load up your pipe or roll a cigarette—and you'll discover the reason that over 352,000,000 of these 5-cent muslin sacks were sold last year alone! Sold wherever good tobacco is sold—and you always get it fresh.

Blackwell's Durham Tobacco Co.



Smoked by more millions of men than all other high-grade tobaccos combined!

Markets

PHILADELPHIA PRODUCE.

Philadelphia, Pa., Sept. 29, 1913.
In the butter trade receipts of fancy stock were light and prices ruled steady. Fine new-laid eggs were in demand, with receipts small, prices ruling firm. The poultry market showed little trading, but values ruled steady on first-class stock. Fruit and vegetable market quiet, but steady.
Butter—Western creamery, 34 1/2¢; extra, 32 1/2¢; firsts to seconds, 27 3/4¢; special, 26 1/2¢; 42¢; near-by prints, 32¢.
Cheese—New York full cream, 16 1/2¢; do fair to good, 16 1/4¢; 16 1/2¢.
Eggs—Candied, 35¢; do doz; extra, 35¢. Current receipts at \$9.00 per case.
Poultry—Fowls, 18¢; old roosters, 12¢; 13¢; pigeons, old, 22¢; 25¢; young, 18¢; 20¢.
Dressed Poultry—Western fowls, 20¢; roosters, 14¢; chickens, 18¢; 21¢; squabs, 22¢; 24¢; 25¢.
Vegetables—White potatoes, Jersey new, 45¢; 55¢; Pa., 55¢; Pa., 55¢; Onions, \$2.00; 2.25; per 100 lbs. Peppers, 15¢; 16¢; 17¢; 18¢; 19¢; 20¢; 21¢; 22¢; 23¢; 24¢; 25¢; 26¢; 27¢; 28¢; 29¢; 30¢; 31¢; 32¢; 33¢; 34¢; 35¢; 36¢; 37¢; 38¢; 39¢; 40¢; 41¢; 42¢; 43¢; 44¢; 45¢; 46¢; 47¢; 48¢; 49¢; 50¢; 51¢; 52¢; 53¢; 54¢; 55¢; 56¢; 57¢; 58¢; 59¢; 60¢; 61¢; 62¢; 63¢; 64¢; 65¢; 66¢; 67¢; 68¢; 69¢; 70¢; 71¢; 72¢; 73¢; 74¢; 75¢; 76¢; 77¢; 78¢; 79¢; 80¢; 81¢; 82¢; 83¢; 84¢; 85¢; 86¢; 87¢; 88¢; 89¢; 90¢; 91¢; 92¢; 93¢; 94¢; 95¢; 96¢; 97¢; 98¢; 99¢; 1.00; 1.01; 1.02; 1.03; 1.04; 1.05; 1.06; 1.07; 1.08; 1.09; 1.10; 1.11; 1.12; 1.13; 1.14; 1.15; 1.16; 1.17; 1.18; 1.19; 1.20; 1.21; 1.22; 1.23; 1.24; 1.25; 1.26; 1.27; 1.28; 1.29; 1.30; 1.31; 1.32; 1.33; 1.34; 1.35; 1.36; 1.37; 1.38; 1.39; 1.40; 1.41; 1.42; 1.43; 1.44; 1.45; 1.46; 1.47; 1.48; 1.49; 1.50; 1.51; 1.52; 1.53; 1.54; 1.55; 1.56; 1.57; 1.58; 1.59; 1.60; 1.61; 1.62; 1.63; 1.64; 1.65; 1.66; 1.67; 1.68; 1.69; 1.70; 1.71; 1.72; 1.73; 1.74; 1.75; 1.76; 1.77; 1.78; 1.79; 1.80; 1.81; 1.82; 1.83; 1.84; 1.85; 1.86; 1.87; 1.88; 1.89; 1.90; 1.91; 1.92; 1.93; 1.94; 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general farm purposes, 26 in. high, square mesh, put up in suitable size rolls. Lot 2-A10-31, price per roll 15c. Other heights in proportion. Staples, 100 lbs., \$1.75.

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OWNERS

PUBLISHED WEEKLY

2 YEARS FOR FLOW

By "The Country Parson."

Perhaps the American Commission on Agricultural Cooperation will be able to tell us what we

tain in the countries where such systems have been developed, and that the time of this American mission was exceedingly limited. As a consequence, the investigation of the various systems of mortgage tations and Congress has persuaded our bankers to set their own house in some semblance of order.



are compelled to wait for their crops, have at last learned this: "It takes time to produce good crops. I realize his needs has again and again been painfully forced upon my attention. Some years ago, I purchased the adoption of that simple device upon any legislative body in this country! I have not.

mer just what he needs in the way of an agricultural savings and credit system. The present dis-
dred pages of legal cap with writing. A few months
later a mortgage was executed upon this piece of
was, and perhaps still is, a hindrance to the work of
the active Immigration Bureau of that beautiful
state. I have not to date found any other

street operators for speculation in the far-
right, but it made me ask myself why a minister
should not insist upon remarrying every couple that
joined his church, just to satisfy himself that they
were sincere.

No doubt our bankers and lawyers, who are nat-

and coupling them with a discussion of the country life problem, together with the creation of country life commissions, mean well. But that is hardly sufficient. Without impugning their motives or questioning their ability, the farmer may be tempted to remember the story of the elephant which clumsily planted its ponderous foot upon a hen, thus depriving her dozen little chickens of a mother. "You poor little orphans," said the elephant, "let me be a mother to you!" Thereupon, it proceeded to lie down carefully upon the chickens. It certainly meant well. But think of the result!

Having told the story, it may be best to make the application. It is this: If the American farmer needs and desires a system of agricultural credits, it will be best for him to mother the chick himself instead of leaving this somewhat delicate function to the well meaning efforts of "big business."

This brings us to the question: How shall he go about it? And this necessitates the telling of another story. The latest version of Hercules and the Wag over which recently came to my notice was presented by a young man, who prepared an eight-acre field for corn and then spent two weeks trying to harrow a corn planter from his neighbors. In half that time he could have built a marker, marked his ground and planted it by hand. But he wanted a more elaborate tool. Instead of using the means at hand or fashioning a tool to suit his needs, he ran around from farm to farm to get a machine which did not work nearly as well on his hillside as a simple marker and hand planter or hoe.

Is there not some danger of the American farmer doing this same thing? Instead of simply extending the humble "Banverein" or City Savings and Loan Association to the country, he is being tempted to adopt cumbersome financial agencies constructed on the plan of the Schulze-Delitsch or Raffen credit system of Germany; the Credit Foncier system of France; the Peoples Bank of Italy or the rural credit system of Denmark, in the development of which, together with the agricultural high school, the Lutheran minister Grundtvig had so large a part. The essential feature of the German Landeshafen system is the collective liability of all its members. Its motto is literally: "All for one and one for all." That this plan will ever be adopted as a basis for co-operative savings and credit associations in individualistic America is very much open to question. Nor is it necessary that it should be.

A study of the City Building and Savings Association shows that it is quite possible to develop a most potent co-operative financial agency without this feature. In other words, the City "Banverein," the most extended and successful form of co-operative effort in America, being based upon the principle of limited liability does not possess what, in the eyes of the American farmer, is the most objectionable feature of the Raffen system of Germany. This is undoubtedly a great advantage, for the "Banverein" needs no great modification preliminary to its extension to rural districts. The constitution of the average Philadelphia or Baltimore association would suit the needs of a group of farmers as readily as it suits the needs of the city dwellers who thru these organizations combine their small savings to aid each other in the acquisition of homes, or by the extension of small loans, in some business or family emergency.

A capitalist may, indeed, become a depositor and subscriber for a considerable number of shares, altho in most of these associations the number of shares which may be owned by any one

person is limited. Yet this gives him no particular advantage. While his opinion may have more than ordinary weight, he, like every other member, has but one vote in the meetings of the association and can derive no benefit on any one share of his stock which does not accrue to any other stockholder. All members or shareholders (a person becomes a member by taking a \$100 share and agreeing to make a weekly deposit of 25 cents) stand upon an equal footing. They elect their own directors at an annual meeting, investing them with such authority as may seem desirable and holding them so strict account for their management of the association's affairs. These directors usually serve without pay.

These associations, altho they retain the traditional name "Building Society," are not necessarily building associations. They are always co-operative savings and loan societies, based, like every form of co-operative effort, upon mutual trust and the desire for mutual advantage and profit. They are always popular in character, composed as a rule of persons of small incomes, who regularly deposit a part of their weekly wage with the officers of the association. As each member has an equal voice in the creation and management of such an association, they are always intensely democratic in character. There is no preferred class, seeking its own personal benefit by investing funds entrusted to it by other people.

The brunt of the work is borne by the secretary, who receives a moderate remuneration for his services. This is as it should be, for he is the most important officeholder. He not only keeps all minutes, but he is the custodian of all records, keeps accounts and conducts the correspondence. He is, to a very large extent, the agent or acting manager of the association. As regards the remuneration of the directors, these associations act upon the principle that, being organized for mutual advantage and profit, it is the duty of each member, including the directors, to work for the benefit of all; cheerfully contributing their personal services and asking compensation only when expense is incurred or loss of time warrants its being asked. The expense of administration is thus reduced to a minimum.

A study of the practical working of the "Banverein" reveals that it always has the two features indicated by the name "rural savings and credit association." It is first of all a savings association, for no person can become or be a member, unless he "buys a share" or agrees to deposit regularly a certain fixed sum of money.

It is secondly a credit or loan association, for it aims to loan to its members, upon satisfactory security, such sums of money as they may desire to borrow. This security may either be real estate, a chattel or the endorsement of one or two members, who have on deposit an amount equal to the sum loaned.

It is a money-making institution, because it pays interest to each depositor and secures for the borrower more favorable rates and terms than he can get in the open market.

Finally, it is an educational institution of great social value. It unites its members in the pursuit of their mutual advantage, encourages thrift and teaches the proper use of money and property.

If we remember that the first organization of this kind, the "Oxford Provident Building Association of Frankford," a suburb of Philadelphia, was established by Dr. William Schmiedel in 1831, and from there spread to Brooklyn, New York, and Baltimore, Maryland, we can readily understand why each of these cities insists with right

upon calling itself "The City of Homes."

At present these associations may be found in every state and territory of the Union. They were organized into a National League at Chicago in 1893. This league regularly publishes a journal, "The Building Association News." Nearly all states and territories have enacted legislation to regulate the formation, powers, and management of these associations, the most satisfactory of which is perhaps the so-called "Corcoran Act" of Ohio, passed in 1891 and amended by the "Russell Act" in 1909. The beneficent character of these corporations has been repeatedly recognized by the federal government, which by act of Congress has exempted them from taxation.

Here then we have a financial instrument of immense power, successfully developed by the small tradesmen and artisans of our cities. Its immense success has been recognized by other countries. At the request of the French government, Dr. Prunard studied this co-operative movement and after presenting his reports, published a book on the subject. The government of France has enacted legislation encouraging the establishment of similar associations. Germany, Austria and other countries are following on the same lines.

Meanwhile, the American farmer, with this tool at hand, which was developed by his own people, in his own country, under his own laws, is being urged by our bankers, financiers and lawyers to permit them to borrow a tool for him from Germany, France or Denmark. Now that the ground is prepared, I wonder if he is going to run around among his neighbors to borrow a corn planter, instead of using the tool at hand? Fortunately, the Department of Agriculture is now studying these co-operative savings and loan associations, with the view of adapting them to the farmer's needs. They, it would seem, propose to plant corn.

Note.—A second article on this subject, discussing in detail the organization, operation and adaptability of a building and loan association will be published in an early issue.—The Editors.

WHY IS A FAIR?

Now-a-days, when a fair is mentioned, one often thinks of horse racing and the kind of a crowd that likes horse racing. A fast crowd certainly, because fast horses win! Earnest, hard-working farmers go, but what for? Why is a Fair? Obviously, a fair is for those who make it. If catch-penny games, side shows and "speak-easies" make a fair, the fellows who run these things reap the benefits. If exhibitions of farm products and home products make a fair, the farmer benefits.

Our fairs are degenerating, and it is all because the farmers are not making use of their opportunities. They do not work hard to make a good impression on the curious city people who pay their money and come in. Does the farmer want to sit in the grandstand and see the races, or stand and watch the man with the three shells? Now, if we can impress this one fact on the farmers our efforts will not be in vain: that is, the man who wants to sell anything to the farmer, from pins to automobiles, is right there on the job. He pays a good sum to be allowed to exhibit his wares, because he knows well that if he can just let the people see his stuff and can talk about it for a few minutes, he has done some good work for his business. Often the sale is not made for months after, but when the farmer needs any special thing in the line, he is sure to hunt for the man that exhibited.

With the farmer, it is different. He

knows that the people have to eat, that he can sell his stuff any way, if he has a good commission man. If he would only wake up he would see that while his potatoes and apples are in the way they leave his farm, and he can learn from the fair exhibitor. People will ask lots of questions about products, just as he does about a repair or gasoline engines. They will want to know what makes the quality why all are not good. He may have to study to be fully posted on his products. Then he must study form and arrangement, so as to make a good showing. Let the city folks see what the farm can do and what a farmer can do in the way of marketing his stuff. They will become tremendously interested if he should place above each exhibit with a price that he received from the commission merchant on it.

Now that Uncle Sam has taken the problem of cheap living, we can use the parcel post more and more in disposing of our products. A fair can do more to bring producer and consumer together than anything else. The farm products are the things that brought to the front and made a feature of the fair. The farmer gets space free in these shows, while other exhibitors must pay for it. He can pay for it and make a profit, while all our begging the farmer will not exhibit his wares free.

Mr. City Man is willing to be educated as to what makes a good market basket, but the fertilizer man is going to show him unless he thinks it will help his sales. Now a city man has no need for fertilizers, but a country man has. A fertilizer man is not the one to exhibit farm products. Let the farmer save his choice stuff if possible give away some as "prizes." Let him fix some in mail packages with cost of stuff and cost of postage clearly advertised: then will Mr. City Man. Neither city man nor country man is greatly edified by looking at the fat man or fat woman. The approximate cost of fattening a pig or hog would be of far more interest and instruction. The stables of the horses that are good for pulling a plow will save him money if he is interested enough to work according to the instructions, while racing horses have lost more money to farmers than they have ever won.

If the farmer will just work a little of the legitimate schemes for sales the other fellows work on him, he will have his eyes opened. The stuff the farmer has to buy is always right in front. What he has to sell, if visible at all, is in a very inconspicuous place and not easily accessible. Yet sometimes we wonder why the farmer does not get along better.—E. Harris, Maryland.

FERTILIZERS FOR POTATOES

A reader asks: "Will it not pay to use 1,000 to 1,500 pounds of commercial fertilizer on potatoes? My neighbor has a piece where he is getting 175 bushels per acre on which he used 175 pounds of high-grade fertilizer. I am getting only 100 bushels to the acre and used about 600 pounds to the acre."

I was so much interested in the question that I took a little pains to look it up. It was indeed true that one man was getting about twice as many potatoes to the acre as the other. That he used more than twice as much of fertilizer I have no doubt. Whether the increased yield is due to the fertilizer entirely I have no doubts. The exact amount of fertilizer is something that one cannot tell as far as profitable production is concerned.

cerned. I have never used over 1,000 pounds to the acre and would not care to do so except as a test on a small plot by the side of the regular field planting. It is a good plan to experiment on all of these disputed points and to repeat the experiment in order to determine whether different seasons will result in the same conditions of profit.

In this particular case I am sure now that the difference is not due entirely to the fertilizer, altho it probably had something to do with the result. In the case of the man who got the 200 bushels to the acre, the land was plowed in the fall. This summer the crop was cultivated more than the other, and the general conditions were better. It may be that the 1,500 pounds per acre of fertilizer had something to do with the yield, but I would not use that amount on more than a few rows until I became convinced that it is profitable. Perhaps 1,000 pounds may be advisable, if the soil is in good physical condition. The plowing, harrowing and cultivation have much to do with the successful crop. The fertilizer is essential, but not more so.—H. H. Lyon, Chenango Co., N. Y.

Note.—B. H. Ward, of Arostook Co., Me., who grew 6,451 barrels of potatoes on 50 acres, or 129 barrels per acre, at a net profit of \$200 per acre, used 1,500 pounds of commercial fertilizer per acre.—The Editors.

Our Farm Counselor

By R. P. Kester, Penna. Farm Advisor on Soils and Crops.

The Farmers' Needs.

That the general public interest in agriculture, both as to the prosperity of the farmer and the cost of his products to the consumer, has not abated is shown by the continued discussion of the subject by all classes of people. The federal Department of Agriculture has lately signified its purpose to take up the question in a systematic and comprehensive way.

That progress is being made is noticable in the fact that there is a more general agreement as to causes and remedies. Cities are becoming enlightened to the fact that the farmer is not profiting by the excessive prices paid by them, and hence are developing a more tolerant spirit, if not yet a greater willingness to co-operate. And farmers are learning that the conditions exist more as a result of his failure to study and apply good business principles in selling thru co-operation, than from any malicious intent on the part of others.

Briefly stating the result of the studies and investigations made since the discussion arose, we find that we need: First, a more economical and business-like system of distributing and marketing farm products, together with an honest effort to standardize them. Second, a better working knowledge on the part of the average farmer, resulting in better yields in return for his labor and expense. In other words, a greater and at the same time, a more economical production.

Farmers who live within driving distance of good markets and who sell direct to the consumer can not fully realize the truth of this first proposition, but the great bulk of farm products goes at once from the farm into the wholesale market. From the moment these products leave the farm until they reach the consumer, they are in the hands of men whose purpose it is to buy at the least possible price and to sell at the highest price. How well they succeed can be told by farmers on one hand, and by the consuming public on the other, and is further tes-

tified to by countless thousands who are not able, on account of high prices, to buy many of the necessities of life.

Let me recite an illustration: Last year we had what was called a big crop of apples in this country. Growers in general received small prices. Cold storage houses, all in the hands of others, were full. Thousands of bushels rotted in the orchards. It looked like over-production, didn't it? But was it? Last March I investigated the subject of the apple market in one of our big eastern cities. I found that they were being sold from the cold-storage houses to the retailer at \$1.50 to \$3.00 per barrel. The retailers were selling them at 25 cents to 35 cents per half peck, or at the rate of \$6.00 to \$8.40 per barrel. I mentioned the inconsistency to a retailer and he answered me this way: "If I can make as much handling five barrels of apples at these prices as I could by handling ten barrels at a less price, would it be good business to handle the five extra barrels for nothing?"

Thus it is that consumption is restricted by high prices. If these apples had been handled by a good, business-like system of distribution, conducted by those who are interested in economical distribution, none need have rotted, growing would have been profitable and thousands of families would have been supplied that were compelled to do without. There was no over-production. There never is too much of anything produced if everybody can be supplied with all they can use at a reasonable price. As long as farmers

Where products are marketed in a wholesale way, co-operation in production as well as in selling is needed. The community should be considered the unit, not the individual farm. The soil, the climate, the location, the people, all need intelligent consideration in a united way so as to produce a large quantity and the best quality of the products best adapted to that community. Buyers are attracted to communities that are noted for a special product. Then when the farmers of the neighborhood are properly organized, the buyers go to those who are appointed to do the business and not to the individual farmer, bearing the market.

The farmer also should give more attention to the affairs of government. He should view all public questions in the light of what is best and just for all the people. He must unitedly demand equality for all and a cessation of special privilege. Yet legislation will not solve the problems that are purely business and social in their nature. No stuffed club will ever make other men do for one class what is their duty to do for themselves. Many of the farmers' problems are purely class problems, and must be solved by the farmers in a collective capacity. Full and free and intelligent co-operation on the part of farmers is at this time their greatest need.—R. P. K.

LOST, A POCKETBOOK.

Sombody left a pocketbook full of money out in the grass until bad weather



CHESTNUT BLIGHT RAVAGES ON B. C. KIRK FARM, Lancaster Co., Pa.

release control and loose sight of their products at the line fences of the farm, will it be any better? Is any other class of producers or manufacturers satisfied to produce only and leave the business of distribution entirely in the hands of others?

All this suggests the necessity there is for farmers to have a hand in the distribution of their products. It will require co-operation. The individual farmer is not big enough, but co-operatively, they may change the results of their efforts from the present unsatisfactory returns to reasonably sure profit.

As to the second proposition, there are those who discourage an effort to increase production. In the light of the world's needs, our position and our opportunities, and with a knowledge of our shortcomings as farmers, surely it is not good advice. We have but to remember the low average yield and the labor and expense applied to get that, to be convinced that the average yield would be greater if the same labor and expense were more intelligently applied. That this is true is proven by many individual farmers. There is enough now known, and well established by the practice of successful farmers, to change this unendurable condition to satisfactory returns if known and practiced by all farmers. The consuming public has no right to pay for inefficiency.

that one more horse is needed to pull it than was necessary, and if we don't furnish the extra horse we are overtaxing the regular team. If we do, it is costing us more than it should to reap the grain.

To whom do we pay this extra cost? King Rust; and he gives us no benefit in return. The extra draft, too, means an extra strain on every part of the machine. Its loss is not merely the small amount of metal that has been converted into iron oxide and crumbled off. It includes the extra amount of good sound iron and steel that has been scraped off during the re-polishing process; the extra torsion that has come to every rod; the extra wear at every point where there is chance for friction. None of us like to mow in badly sanded grass because of the extra draft on the horses and wear on the machine. That is exactly what we are doing this, every time we start up a machine that has been allowed to rust even a little.

The gasoline engine expert uses the greatest care, when cleaning out the cylinder, not to remove or scratch the fine polish or "glaze" which cylinder and piston acquire by use, because that perfect running surface adds so much to the efficiency of his engine. Whenever a thin coat of rust forms on any other machine, this glaze coat is disturbed or destroyed at every place where one metal part works upon another. In other words, we are breaking up the very thing which the engine man so jealously protects, in perhaps 50 places every time we permit any machine like a binder to stand for a few hours in the wet.

The Silage Cutter

At this particular season, perhaps no machine on the farm suffers so much as does the ensilage or feed-cutter. All that has been said with regard to the effect of exposure on the binder is true with the feed-cutter. We often hear people say that there is no delicate machinery about a heavy cutter. As a matter of fact, there is, or should be, a delicate adjustment. Any cutter man knows what the effect is when the knife is set too close; also when it is not close enough. In the first case it is the machine that will be injured; in the second, good work will not be done and there will also be an extra strain on the machine because the stalks are being crushed and bruised instead of being cut. There is then, a narrow margin for give and take between the two points where the best work will not be done; in other words, there is a delicate adjustment.

With the ensilage cutter, however, there is a far more important source of loss than an occasional storm, since it is a certain source and not an occasional accident. Every time an ensilage cutter stops working the corn juices, with which it is coated, begin to ferment and generate acids which at once go to work upon the metal far more vigorously than common rust. This process continues until every particle of the acid has been formed and has exhausted itself upon the metal; that is, unless the cutter is put to work again and the acids removed by the wiping process of the work itself.

If we are inclined to consider the loss of time and work too great to expend upon machinery that is simply going to lie idle, we should not forget that it is only a part of the energy either we ourselves or our teams and machines would otherwise have to spend upon the annual clean-up when we undertook to begin operations in the spring. All of our care and effort will be defeated, however, of its purpose unless we go out after the "rotting pocketbook" and give it a place where it will be under shelter. Nemo W. Putnam, Crawford Co. Pa.

"Scalecide" will positively destroy San Jose, Cottony Maple Scale, Pear Psylla, etc., without injury to the trees. Endorsed by Experiment Stations.

Our booklet, "Scalecide, the Tree Saver" proves our every assertion. Mailed free. B. G. Pratt Co., Dept. "A", 50 Church Street, New York City.

The Dairy

WATERING TANKS FOR LIVE STOCK.

As a general proposition the watering trough is not as poetic as the "old wooden bucket." It may have the moss, but it is usually in a state of decay, and frequently fronts upon a pool of water or deep mud. It is unattractive and may be unsanitary. As opposed to this the durable, cheap and everlasting concrete trough becomes ideal. The following briefly describes the simple means whereby the farmer may substitute concrete troughs or tanks for those of decaying wood.

The tank described will hold about thirty barrels of water. First, mark out the ground plan 5 by 14 feet. Within these lines scrape away all trash and dig a foundation trench 10 inches wide and 24 feet deep around the entire tank. Lay all in-flow and over-flow pipes (not less than 1 1/2 inches in diameter) so that the ends, fitted for connections, will be even with the finished bottom of the tank.

Before digging for the foundation trench, build the forms and have all materials on hand. For forms use 1-inch siding on 2 by 4-inch uprights spaced 2 feet apart. The outside form is a bottomless box 5 feet wide by 14 feet long, inside measurements. Make it 3 feet high to provide for a 6-inch floor and a clear depth of 24 feet. The inside form must be narrower and shorter to make provision for walls 5 inches thick at the top and flaring to a thickness of 8 inches at the bottom of the tank. When ice forms, this slope allows it to slip up the tank walls instead of pushing directly against them. The sides and ends of the forms may be made separate and put together in place; or, if there is sufficient help, each form may be entirely completed and set up as one piece. The forms are held in position by 2-by-4-inch liners at top and bottom and, if necessary, by sloping braces nailed to stakes driven in the ground. Cut strips of heavy woven wire fencing long enough to cover the bottom of the tank crosswise and to project up into the walls to within 6 inches of the top, and likewise a strip 4 feet longer than the inside length of the tank.

With the forms ready, mix the concrete 1 part Portland cement to 2 parts sand to 4 parts crushed rock. In measuring the materials, count 1 bag of cement equal to 1 cubic foot. If bank-run gravel is used, mix the concrete 1 part cement to 4 parts gravel. Fill the foundation trench with concrete. Set the outside form in place. See that it is level, so that the tank will be level and can be entirely filled with water. Lay the 6-inch bottom reinforced 1 1/2 inches from the under side with the short lengths of woven wire crosswise and 1 1/2 inches from the upper side with the long strip of fencing. Bring up the extra length of wire so that the ends will project up into the future side walls and can be fastened to the reinforcing rods. (This wire reinforcing in the bottom will prevent possible cracking due to heaving by frost.) Finish the surface of the bottom the same as for a sidewalk. Do not let concrete get into the in-flow and over-flow pipes.

With the bottom finished, immediately set the inside form in place and fill the wall space with concrete masonry. Half-way up the side, and 1 inch from the outside, lay a 3-inch rod (or several hooked together) entirely around the tank. Again 2 inches from the top and 1 inch from both inside and outside, embed two more 3-inch rods in the concrete. Round the top edges of the tank with a trowel or a sidewalk tool. If a

tank cover is desired, insert 1-inch bolts, heads down, in the soft concrete with sufficient length above the top of the wall to pass thru the wooden cover and to receive a nut and washer.

When the tank is three days old, remove the inner form and paint the inside of the tank with a mixture of cement and water as thick as cream. Screw into the over-flow connection the necessary length of over-flow pipe. The tank may be used in ten days provided the outside form is left in place. If the outer form is removed at the same time as the inner, do not use the tank for two weeks.

Bill of Materials.—Crush rock, 64 cu. yds., at \$1.10, \$7.15; sand, 34 cu. yds.



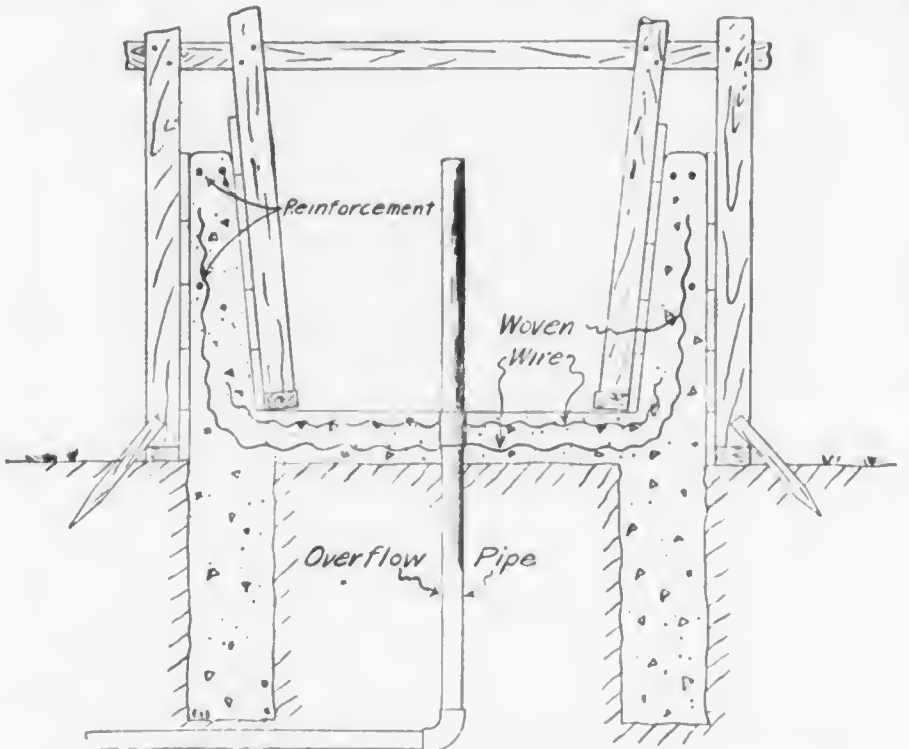
REINFORCED CONCRETE WATERING TANK.

at \$1.00, \$3.25; Portland cement, 104 bbls. at \$2.50, \$26.25; 12 rods 3/4 inches, 10 feet long, 45 lbs. at 24c., \$1.00; total, \$37.65.

By getting prices from local dealers, the cost may be found to be less. Such a tank is by far the cheapest to be had, since it never needs repairs and never wears out.—P. C. Stock.

LACK OF WATER DECREASED MILK YIELD.

Not one dairy barn in a hundred is equipped for furnishing cows water whenever they want it. Altho it would



CROSS SECTION SHOWING CONSTRUCTION OF CONCRETE TANK

be somewhat costly to install such an apparatus, the increased milk yield probably would pay a big dividend on the investment.

The value of a constant supply of water in a stable was demonstrated in a brief talk given at the Edinboro Agricultural Course in Daurying, held there August 5. A Mr. Echols, attorney and also a farmer, of Virginia, told of an experience of a Mr. McGuire, a prominent dairyman of Coatsville, Pa., illustrating the value of a constant supply of water for milk cows.

Mr. Echols said that this barn had

been equipped with individual watering devices, covered with a lid which the animals could raise whenever they wanted to drink. It was an up-to-date dairy and accurate records were kept of the production of each cow daily. One night the attendant turned off the water to fix the pipes, and forgot to let it on again. The next morning it was found the milk supply was short just five gallons, and it was two days before the yield became normal.

To test the matter further, Mr. McGuire voluntarily disconnected the water. The result was the same as the first time, the production being a little over five gallons short. Again it took two days to come up to the usual yield.

Cows can not do their best on timothy hay and corn fodder, as most cows are fed. When these foods make up the bulk of the roughage they should be fed along with protein concentrates that will balance up the deficiency in milk-making elements. Protein is needed to build up blood, bone and flesh. Every part of the body but the fat is made out of protein in combination with mineral matter and water. Corn fodder and timothy hay do not contain the needed amount of protein to enable the cow to give a satisfactory yield of milk. It is better to sell some of the cows than to attempt to winter the whole herd thru on poor roughage.

Dairy cows will maintain a good flesh condition and give some milk if fed corn ensilage and good clover hay. If we do not have clover, or alfalfa hay, we will have to buy some kind of supplemental protein feeds. Young cattle will need practically the same kind of foods as milk cows. They are not laying on fat, but growing. They need the kinds of feed that will keep them growing and hardy and enable them to make a good growth the next summer when turned out to grass. It will be better to sell some of the timothy hay and buy a little bran and oil meal for the young stock and milk cows. Feed is high, but we must see it in proper combinations to maintain a suitable milk flow and keep the young stock in a thrifty, growing condition.

Situated as I am, in the business of producing milk for the city trade, and depending upon purchased cows for use in my herd, I have an opportunity to study the dairying conditions of many farms where I go to select my new cows. As a rule I buy new cows in the fall, because we plan to make more milk during the winter and because it is possible to buy good cows for less money in the sections where we live than in the spring. Then again, we do not have enough grass land to keep extra cows during the spring and summer months.

It seems almost incredible in these days that so many dairymen will neglect their cows during this critical time of the year. By keeping dairy cows in a drought-stricken pasture the condition of the animal is changed before it goes into the stable for the winter. Every time I bought a bunch of these run-down cows late in the fall and tried to bring them back to life I have lost money. Looked at from every side of the question, the fall care of the herd is one of the most vital factors in determining the profits for the year. Any practical dairyman who has good natural pastures can buy cows that are comparatively low flesh during the spring and get something out of them during the summer, but the cow that goes into the stable at the beginning of the winter in a run-down, emaciated

condition is about as hopeless a proposition as I know of. No cow is going to produce a good flow of milk when she is poor and her regulation and skin are out of condition. No matter how good feeds you have or how well you proportion them, it requires four or five months to get such cows in good working form, and that means a loss of time and many dollars worth of grain feeds. We must have evenly balanced cows as well as evenly balanced rations to begin the winter with if we realize a profit from our business.

The question of handling new cows that are brought onto the farm in the fall and fed heavily for milk production in the winter needs study and attention. As a rule, I like to buy cows from dairy farmers who do not feel heavy grain rations. These new cows all have an individuality of their own and we must study them and get to know their characteristics as soon as possible. By making inquiries as to their subsequent care and food we can plan our management so as to get them settled down to the new conditions as quickly as possible.

Then we can gradually change their rations until they can make proper use of a full ration of grain and roughage without danger of deranging their digestion. The cow's habits and peculiarities depend a great deal upon how she has been treated, and she should be watched at the start and given sensible treatment until she settles down to the new order of things. It requires patience and common sense to buy new cows and get them to start off well under new surroundings, but the little extra work pays big returns.—W. Milton Kelly, Erie Co., N. Y.

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VALUE OF FALL FEEDING.

The profits from the dairy for the coming year will depend in a large measure upon how the dairyman begins the year, or, in other words, how he balances his feeds and the kind of cows he keeps on his farm. If he has nothing but corn fodder and timothy hay for roughage, it will pay him to sell the timothy hay and buy some clover or alfalfa if he can; or, if not, he had better use his corn fodder to the best possible advantage and buy supplementary protein foods.

Cows can not do their best on timothy hay and corn fodder, as most cows are fed. When these foods make up the bulk of the roughage they should be fed along with protein concentrates that will balance up the deficiency in milk-making elements. Protein is needed to build up blood, bone and flesh. Every part of the body but the fat is made out of protein in combination with mineral matter and water. Corn fodder and timothy hay do not contain the needed amount of protein to enable the cow to give a satisfactory yield of milk. It is better to sell some of the cows than to attempt to winter the whole herd thru on poor roughage.

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WHAT IS A COW TESTING ASSOCIATION?

A reader of Media, Pa., writes and asks the above question. A cow testing association is simply a co-operative business association among dairymen. The dairymen of a community, realizing the importance of testing the individuality of their cows, organize into a business association, and hire a man to go from farm to farm to do this testing. Some one says, "If that's all there is to it, why don't the farmers themselves do the testing?" and echo answers, "why?" It is probably because the farmer has so very many things to do that he does not have time to do the testing. Consequently, his cows are not tested. He goes on from year to year without knowing anything about the individuality of his cows. When he realizes sufficiently the importance of the question, then he is willing to co-operate with his neighbors.

The great object of a cow testing association is to test each cow for economical production. The idea is not to find out how much the cows will produce, to see how much you can make from yield by excessive feeding, or anything of that sort. The idea is to find the net profits from each cow. This is the question that dairymen are interested in. Are there cows in the herd that make no profit at all? Unless we keep, as it were, a book account of each cow, we do not know whether we have some that are making us no profit or not. Consequently, we are unable to keep cows year after year in the herd that are paying us little or no profit when by keeping careful records of the cows we will be able to cull out the unprofitable ones and, in a short time, raise the standard of our herd so that we would realize a much larger profit at dairying.

Now the cow tester is any man competent to weigh the milk of each cow, take a sample of it correctly, test this sample accurately for butter-fat, weigh the feed of each cow, figure it up at the market price, and charge each cow with the cost of her feed and give her credit for the butter-fat, or milk, she produces at the market price. This is keeping a personal account with each cow. At the end of each month he figures out the profit made by each cow and leaves a record of these figures with the farmer. He also keeps in a book for that purpose a copy of this record. At the end of the year he gives to the farmer a complete record of what each cow in his herd has done that year, giving the total number of pounds of milk produced the average test of this milk, the total number of pounds of butter-fat produced, and the market price of this product, whether in butter-fat or in milk. Then he figures out the amount of food consumed by each cow at the market price and charges up to the cow and simply strikes the balance so that the farmer can see at a glance just how much profit each cow has produced. Then all cows that have made a good profit are retained in the herd. Those that make little or no profit should be sold. The result is that the farmer does not keep on raising his herd from these poor cows, but only from the best, and if in addition to this he will purchase his dairy sire of some one of the exclusive dairy breeds, breeding his best cows to this sire and saving the calves from his best cows, it is only a question of a few years when he has made a marked improvement in the profitability of his herd.

The State College and United States Department of Agriculture are fostering and encouraging these cow testing associations. There is no work that will better dairy conditions greater than this. These departments furnish blank books for the cow testers. Such records are the only reliable data we have in this country, of any considerable number of cows, giving us an idea of the profitability of dairying.

SEPARATION BY DEEP SETTING. I am only keeping two cows and make butter. I do not get milk enough to buy a hand separator. Kindly advise me if cream can be raised successfully in one of those double can separators—that is where you put the milk in the inner can and put the water around it instead of diluting the milk? I do not want one where you have to put water with the milk.—Wm Fox.

If proper conditions are observed, deep setting of milk is the best known way aside from the centrifugal separator. The old-fashioned way was to set the milk in shallow pans, and then the deep setting system was introduced. Deep setting will give a more complete separation, providing several things are observed, than the shallow-pan setting. In the first place, you must have ice water surrounding the milk, the milk must not be disturbed after it is once put into the can, and it should be put into the can just as soon as possible after it is milked. If these things are observed, you can get fairly good results.

Use of Exhaust Steam in Creameries, Milk Plants, etc.—The Bureau of Animal Industry of the U. S. Department of Agriculture has recently completed a very interesting study of the waste fuel in creameries, milk plants and dairies resulting from failure to utilize exhaust steam. The study points out that this steam might be used for heating the feed water to the boiler; heating water used for washing utensils, heating the building or pasteurizing. The complete discussion, together with specific directions for utilization of such wastes, is given in circular 209, which will be sent free upon postal card request to the above Bureau.

International Special Molasses Feed



INCREASE YOUR MILK PRODUCTION.
SAVE MONEY ON YOUR FEED BILL
IMPROVE CONDITION OF YOUR COWS.

INTERNATIONAL SPECIAL MOLASSES FEED is composed of ground grain, cotton seed meal and molasses. Is far superior to ordinary mill feeds for mixing with ensilage or with home grown grains, also used for mixing with Gluten, Brewer's grains, etc. You will save money on your feed bill and largely increase milk production by its use.

Our feeding directions will tell you how to obtain a balanced ration by using International Special Molasses Feed with any other feed.

Ask your dealer for International Special Molasses Feed. If he don't keep it for sale, then send his your dealer's name and address—we will arrange with him to supply you.

INTERNATIONAL SUGAR FEED COMPANY
M. W. SAVAGE, Pres., MINNEAPOLIS, MINN. (1)

DAIRY CATTLE

WOLSTEIN BULL CALF. born Sept. 18, 1913. Sire is by King Pontiac, a son of King of the Pontiacs and Pontiac, a son of King of the Pontiacs. Dam is a large producing cow of Pontiac breeding. One of the largest producing strains of the breed. Price \$20.00.

STEVENS BROTHERS CO., LIVERPOOL, PA.

DON'T MISS THIS

THE BRADFORD COUNTY HOLSTEIN CLUB

Will hold their first consignment sale at Towanda Fair Grounds, Towanda, Pa., Oct. 14th, where they will sell

80 HEAD OF REGISTERED HOLSTEINS 80

From some of the best herds in Pennsylvania. All of the best breeding. All Tuberculin tested. Under the management of the

LIVERPOOL SALE AND PEDIGREE CO., Liverpool, N. Y.

Write for Catalogue. Mention this paper.

CHESTERBROOK GUERNSEYS

ADVANCED REGISTRY Cows with high records and Bull Calves from ADVANCED REGISTRY do. k for sale

Write for circular

R. A. COLGAN, Mgr.,

Berwyn, Pa.

DAIRYMEN: Improve Your Herd. Purchase a grandson of Hengerveld Dekol, who has 30-lb. daughters. Bull—Lexus Pontiac, No. 1590, born Oct. 7, 1912. Three-fourth white, fine individual, ready for service. Price \$125.00. Bull born Jan. 3, 1913, fifteen sixteen white. Sire Angus Grace Butter Boy who has 30 official tested daughters. Dam has better than 20 lbs. in 7 days. This is a show animal. Price \$125.00. We have more. Write us your wants.

C. L. BANKS, Locus Stock Farm, New Berlin, N. Y.

Improve your dairy with JERSEY BLOOD by

buying one of my good Bull Calves.

W. F. McSparran, - Fairless, Penna.

100 Head Yearling Steers For Sale.

Also known as 100 head of heavy feeder Herefords, Angus and Shorthorns. I will help buy for 50c per head commission. Write me if in need of cattle. Harry J. Day, Fairfield, Iowa.

Registered Holstein Bull Calves. Sired by Colonel Kornel de Kol. No. 7225, one of the best sons of Pontiac Kornel; from heavy milking Registered cows, at reasonable prices.

Donald F. McLaughlin, Syracuse, N. Y.

GRADE HOLSTEINS

20 fresh cows, 40 close springs, 40 heifers bred, 25 registered cows, 15 registered bulls, also grade heifers and bulls. HEAGAN BROS., Tully, N. Y.

REGISTERED GUERNSEY BULL CALF

3 mos., old, SHIROSHIRE SHEEP—all ages, cheap J. L. Herter, R.D. 4, Oakland Farm, Göttingen, Pa.

Guernseys

Get a bull which will stamp his merit on your herd. Fred W. Carl, Sylvania, Pa.

Holstein Friesian Cattle. Royal breeding. Get HOME FARM, Center Valley, Pa.

DAIRY SHORTHORNS—Calves from 10,000 pound cows. Prices \$50 to \$100. Also a few choice cows. Stimpson, West Glover, Vt.

Star Feed Grinders

Are proving of great help to bustling farmers. Their strong construction makes them very durable. Guaranteed to do quick and thorough work. Write for ILLUSTRATED CATALOGUE FREE. Tells all about grand feed grinders. Write for it today.

The Star Manufacturing Co., 1431 Depot St., New Lexington, Ohio

Keeps Cows Clean and Comfortable

LANSLOWNE STALLS AND STANCHIONS

mean less work, increased profits and they renew their coat many times over. Cows will give more milk, keep in better condition, and standing or lying down, are always comfortable. If you want a sanitary dairy that can be kept sweet and clean at small cost, you should get our prices. Write to us for prices and catalogue "E".

Dairymen Supply Co., Lansdowne, Philadelphia and Pittsburgh, Pa.

THE FEED THAT FEEDS

High Grade COTTONSEED MEAL

Write or wire for delivered prices.

The William A. Burnett Company, (Established 1901) Louisville, Ky.

RENEW NOW! Send us \$2.00 for 5 years, \$1.25 for 3 years, \$1.00 for 2 years, or 50 cents for one year, and have your subscription to Pennsylvania Farmer extended, no matter when it expires. The best farm paper at the lowest subscription price

PLEASE Say "Saw it in Pennsylvania Farmer" when you write to our advertiser

Working farmer, experienced in handling dairy cattle and fruit trees, to take charge of farm in Maryland on April 1, 1914. Apply by letter to Farmer, Room 101, Penna. Bldg., 15th and Chestnut Sts., Philadelphia, Pa.

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FARMER WANTED

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FARMER WANTED

Poultry

AUTUMN THOUGHTS ON POULTRY

At this season the poultryman is arranging his houses and selecting his birds for the winter egg production. Too much care cannot be taken in getting the laying quarters in order and above all in a sanitary condition. Old houses that have been in constant use should be thoroughly cleaned and disinfected so as to eradicate any disease that may be lurking therein. If the floors are of cement or boards they should be thoroughly scrubbed and disinfected; if of earth the old diseased earth should be removed and new earth packed in and well tamped to make a solid floor. A clay or clay-loam soil does best for a poultry house earth floor. The perches also should be thoroughly cleansed and treated with some good lice exterminating liquid, and the nest boxes should be cleaned thoroughly and fresh, clean nesting material put in. This nesting material should be changed every week.

In selecting the winter egg producers I prefer an early hatched pullet, one that is well matured and has a long deep body, thus insuring plenty of room for the egg-producing portion of the body. With comfortable quarters and the egg type of pullet, good, sound feed, plenty of clean, fresh water, green food and oyster shells, eggs should be produced in paying quantities, provided the poultryman knows his business. The person who fancies poultry, who delights in caring for them, who is regular in feeding and attention to the smaller details, is the one who will make a success. Too many persons launch into the poultry business with no knowledge of the habits and wants of chickens and are failures, but the person who starts in with a few hens and gives them proper attention can show a profit which will grow as the successful flock grows. There is no reason why a farmer could not manage 500 to 1,000 hens and make them pay him from \$1.00 to \$1.50 per year a hen and at the same time arrange the work so as not to make the handling of the flock laborious.

A New York poultryman tells us that from 1,500 hens this year from January 1 to September 1, he has cleared \$2,190, and he claims that by a system of management he has been able to care for this flock with only two hours labor per day.

Were farmers to pay as much attention to their poultry as they do to their horses and cows, their income from the poultry would be many times that from the live stock in proportion to the capital invested.

With the hopper feeding system of dry mash, alternated with whole grains, a large flock of layers can be managed with very little labor, provided the houses are arranged for convenience. The price of eggs at this time is very high, choice strictly fresh white eggs selling at 50c per dozen to people who know the value of fresh eggs. Feed is high and many farmers who buy their grain feed for the poultry pay fancy prices for those widely advertised, specially mixed scratch feeds when equivalent or perhaps better results could be obtained by feeding equal parts of cracked corn, wheat and oats as a scratch feed for most breeds of poultry, or in case of Leghorns two parts of cracked corn, to one each of wheat and oats. In feeding these mixtures for eggs, one pound to ten hens twice a day should be allowed and the dry mash should not be forgotten, but should be before the laying hen at all times with plenty of fresh water, in order that

she may be able to balance her ration as she desires. Unless a hen is in good body condition with sufficient feed to nourish her body and a surplus to make into eggs, no eggs should be expected.

Too many farmers feed less than should be given to sustain the body and expect the hen to produce eggs from the garbage and manure pile. Give the hen a chance. Allow her sufficient feed to keep her in proper condition and she will pay her board and give you a profit upon your investment.—Frank Kline, Chester Co., Pa.

THE WINTERING OF BEES.

Bees in order to be profitable, require care, much care. While it is true that "they work for nothing and board themselves" it is nevertheless poor business for the beekeeper to forget his bees until he feels an appetite for honey and the notion comes to him that he ought to look whether or not the bees have "done anything" this year.

The bee men who depend upon a honey crop for an income, know the importance and value of winter and spring protection. Quite a few still practice cellar wintering. Some of the best men have discarded this method as too laborious and risky. It is no fun to lug 100 or 150 hives into and out of a cellar. Besides, the thermometer must be watched closely and the cellar temperature kept around 45 degrees if the whole thing is not to prove a complete failure. Until the weather bureau is in a position to make exact forecasts for the next 20 days instead of for 21 hours, you are apt to take the bees in too late or bring them out too soon. The less guess work we have in our pursuits the better off we are. It is therefore best for the average bee man to leave the hives on the summer stand and do what is necessary to bring the bees safely thru the winter. There never was a visitor to my apiary who failed to ask the question: "What do you do with all those bees in the winter?" The answer is: "They are left just where they are, but they must be properly packed and protected."

After the surplus receptacle, called a super, is removed, four sticks or dry twigs from a near-by tree about 8 inches long and as thick as a finger are put in the shape of a square on top of the brood frames. Over this comes a cloth or a piece of carpet the size of the brood chamber and on this a sack or cushion containing chaff or short straw. This completes the covering. If put on early in fall, the bees will glue this covering down along the edge of the hive, allowing no cracks for the heat to escape. The sticks keep the quilt away from the frames, thus affording a clustering space right under the warm cushion. They also give the cluster a chance to shift its position and move towards the stores, whereas if the covering was flat upon the frames the moving would have to be done around the lower end of the frames and many of the bees would be sacrificed on account of the cold near the bottom board.

The up-to-date beekeeper nowadays uses an escape board between the super and the brood-rest when the honey is taken off. This board can be left on the hive and the tin escape taken out. If the chaff cushion or a super filled with chaff is put on, good protection is provided. The tin escape is taken out and a piece of cloth put over the hole to allow the packing to absorb the moisture of the cluster. Bees prepared in this manner come thru the winter in good shape. It is, of course, understood that they have ample stores (say about 20 to 25 lbs. of honey) and a

good queen. I have seen bees in the winter time in poorly made hives with nothing over them but a six-inch air space and a leaky cover. Genuine comfort that, in zero weather! Without resorting to clairvoyance I could tell that those bees, if they lived to do anything, "wouldn't do much" the following season. Bees neglected in such a cruel manner generally winter badly. In spring they are so reduced in number as to be hardly able to keep up the necessary heat for brood rearing. On one side of the hive you will find a small cluster of bees struggling to keep alive. Meanwhile the queen is taking things easy. The paragraph of a daily paper enumerating star performers, must have had these conditions in mind when he wrote that a queen lays 200 eggs a day. The little crowd will have uphill work all summer. The queen will only lay in proportion to the number of bees that can take care of the brood. What little honey is brought in is consumed in brood rearing and when the season is over your colony has perhaps sufficiently recuperated to withstand another winter. The amount of your surplus will be equal to the air space under the leaky hive cover.

Double walled hives for outdoor wintering are the safest. They are, however, very expensive if bought from the manufacturers, costing from \$3.00 to \$4.00 apiece. In order to winter in the simple and handy single wall hives, it is a good plan to put on the quilt and chaff cushion or super as described above and then, without using the regular hive cover at all, to wrap the whole hive in a piece of tarred felt. A piece of binder twine fastened around the bottom board of the hive will keep the felt tight. Several sheets of newspaper around the sides of the hive under the felt will give added protection against cold and wind. The entrance must be contracted to about 6 inches by 1 inch. Be sure to have the flight hole narrow enough to exclude mice. These pests do a lot of damage if they once establish themselves in the hive. They will build their nest right over the cluster where it is warm. In order to get up "into the gallery" they will gnaw a hole thru the cloths and very often the chaff runs down between the frames, causing the bees a lot of trouble. The steady nibbling and gnawing of the intruders continuously disturbs the bees, to say nothing about the destructive work done to the frames and the combs. When mice are permitted to enrry on their nefarious business during the winter the comb look as tho they had been put thru a meat chopper. Your supply of wax for the melting pot is increased and the number of your colonies decreased.

Leaving the bees without adequate covering during the winter months frequently results in dysentery. The colony, in order to keep up the necessary animal heat, must consume a great amount of stores. The more food consumed the greater the necessity of voiding the feces. This voiding or cleansing is ordinarily done outside of the hive. During a protracted cold spell there is no chance for a flight and cleansing must be postponed. If the weather does not warm up and but comes to worse, the bees will begin to get uneasy, soil the walls of their hive and void excreta upon the combs. The bunch of bees squirming around in the mire presents a sorry sight. They are sick. The whole stock is demoralized. The queen quits laying and your prospects of a surplus are gone. When the cold blasts of winter are over and you go out to examine your hives, the probability is that you will find yourself the proud possessor of the "rarest" bees in the neighborhood. C. T. Obliager, Dorchester Co., Md.

Why We Should Make Your Clothes

Confidence

First we must gain your confidence. Our business is the development of an industry which has been located at Chambersburg since 1840, seventy-three years. This ought to convince anyone that we must be honest and fair. We refer by permission to the Chamber of Commerce composed of leading business men of the City, also to the Chambersburg Trust Co.

Cost

We do not make or sell cheap, flashy or shoddy clothes. We manufacture most of the cloth we use and buy the balance at first hand from reliable mills. No honest goods can be had at lower cost than ours.

The suits we make out of this material are sold direct to the wearer and for these reasons you can buy from us good, honest, stylish suits and overcoats at prices from \$15 to \$25 that are easily the equal of those bought in New York at from \$30 to \$50.

Our Tailors Are Experts

We send you samples of the color and weight of goods you write for so you can see the material yourself. With these we send a very simple set of directions for taking your measure, together with a tape measure and fashion book. Anyone can take your measure and fill in the blank. This with cloth you choose is returned to us. The sample of cloth with your measurements is taken by our Tailors and your suit is cut and made up to fit you. Not only will it fit and wear long and its shape, but you will find that good honest materials are used, the buttons are well sewed on, the button holes nicely made and all the little things by which you know a suit is good are finished properly.

What You Do

Write us a letter or postal note. Tell us your own ideas as to what color, weight and patterns of cloth you like. We will then send you free samples of cloth, fashion book, and all information.

Remember

We are right here in the State of Pennsylvania and have been since 1840. We think we make the best clothes for the price you ever wear. Everything guaranteed and your money returned at once if you are not entirely satisfied. Try us. Send for samples.

PEERLESS TAILORS, Penn St., Chambersburg, Pa.

SHIP YOUR EGGS IN THE BEST EGGS CARTONS MADE. For Prices Write Keystone Egg Box & Filler Co., Box 50, Railroad, Pa.

WANTED

POULTRY, CALVES, FANCY EGGS, HOUSEHOLD PRODUCE, APPLES AND ALL FRUITS AND VEGETABLES. TOP PRICES FOR CHOICE GOODS.

ARCHDEACON & CO., 100 Murray St., New York

POULTRY EGGS CALVES

Dressed meats, nuts, and butter. Shipment followed by J. L. F. & CO., 284 Washington St., and West Washington Market, New York.

Ship your live poultry, dressed calves and hogs, potatoes, apples, etc., to us and receive highest market prices. FRED YOST & CO., General Commission Merchants, Newark, N. J.

POULTRY

FOR SALE—White Indian Runner Ducks, 12 each; Imperial Pekin Ducks, 12 each; White Rock Cockerles, 12 each; S. C. White Leghorn Pullets, 12 each. Mareh hatchling. Goods on free range. From the leading strains. Pen-Y-Bryn Farm, F. A. T. Hany, Supl. D. 346, Ambler, Pa.

60 Page Book Free. During September only, 12 copies of our book "C. H. HENRY, Telford, Penna." will be sent free to those who send for it.

INDIAN RUNNERS—Fawn and White, each for sale at reasonable prices. Address Mrs. C. H. Patton, Telford, Pa.

For Sale—Fawn and White also White Indian Runner Ducks, \$1.25 and \$2.00 each. Indian White egg strains. T. H. Hunt, Bridgehampton, N. Y.

DOGS

Collie Pups, the kind that bring the cows, for sale. 1000 Bloodhounds, Ferrets, Rats, Trucks. Nelson Bros., Grove City, Pa.

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Live Stock

LIVE STOCK AT ALLENTOWN FAIR.

The Allentown Fair has come to be one of the very best all-around live stock and agricultural exhibitions in the East. Thru wise business management, coupled with liberal treatment of exhibitors and visitors, the managers have built up a fair that draws the best of exhibits and liberal attendance. The 1913 fair was one of the best in the history of the association. With favorable weather thruout the week, new records in attendance were established, and the quality and varieties of exhibits have never been surpassed.

A trip thru the live stock building would dispel any doubts of the quality of eastern stock, or the interest which eastern breeders are taking in stock improvement. The barns were filled to capacity, and quality was uniformly

popular breeds of the East, with a total of about 50 head. The white hogs were more numerous, but there was a strong showing of Berks and Poland Chinas. The sheep exhibit was unusually strong for the section, and indicated a keen interest in this class of stock, regardless of tariff scares. There was a total of 147 head on exhibition, the coars-wools predominating with 66 head, followed by 47 head of the mutton breeds and 34 fine wools.

The poultry show was in a class by itself as a fair show. With about \$1,000 in special prizes and trophies offered in addition to the regular class awards, this show has come to be one of the best of the year. All classes and breeds were represented. There was a good proportion of water fowls and all showed excellent finish for so early in the season.

The fair management deserves great credit for the systematic manner in which all the business of the show is handled. Its liberal treatment of exhibitors and visitors is making new friends annually, and is bound to give



INTERIOR OF CONCRETE HOG HOUSE ON OVERLOOK FARM, Montgomery Co., Pa.

begin. From purely a farmer's standpoint, the horse show was as good as could be found at any eastern exhibit.

There were comparatively few entries by large breeders, and few exhibits of animals that have been primed and fitted for show at large expense. But there were plenty of farm horses, and more than are seen at most shows. There were about 130 head in all, and most of these were shown as matched teams, heavy drafters or in driving pairs. We all like to see the fancy steppers and the highly-groomed, snappy drafters on exhibition, but for purposes of comparison for actual farm work, and for bringing out the qualities which make a good farm team, there is much more value in such a show as was to be found at Allentown. Prizes were well distributed among local exhibitors and increased interest in breeding of drafters to meet local farm needs should result.

The cattle show was well balanced and brought out some excellent herds. The beef cattle showed stronger than at former years, being augmented by some of the best herds of the Middle West. There were some 35 head of Shortorns, 14 head of Herefords, and 12 head of Angus. The dairy cattle were in greater number and included all breeds. The Holsteins led with 70 head, including some of the best herds of the East and giving spirited competition. Jerseys followed with 44 head. Ayrshires numbered 33; Guernseys, 18; Dutch Belts, 17; Brown Swisses, 17; French Canadian, 14, and Devon, 15.

The hog show included all of the

increased growth in value and popularity.

RAISING PIGS WITHOUT SKIM MILK.

While good skim milk stands at the head of the list of feeds for young pigs it is not essential as long as the pigs can get the sow's milk. It has the greatest value at weaning time, when used to supplement the usual feed of grain. While many farmers have skim milk there are many breeders of purebred pigs who have little of it and rely mainly on combinations of foods that approach a balanced ration. After pigs are three to four weeks old they so readily take to eating grain with their hams that it seems that milk alone does not satisfy the demands of their appetites.

There are few sows that can furnish enough milk for a litter of eight or ten pigs after they pass the fifth or sixth week, hence the swine feeder who is not something of a dairyman must find a substitute for the skim milk that many think essential for profitable pig growing. After the pigs begin to tax the sow there are two good ways of meeting their demands. The first is to feed the sow so as to increase her supply of milk and the second is to feed the pigs a substitute for milk. To enable the sow to give the most milk she must be liberally fed with milk producing food. Corn alone will not do this, but if the sow can get two to five pounds of milk to every five pounds of

Are You Fattening Lice or Hogs?

Neglect of pens, runs and troughs makes hog lice—and disease—a probability.

The feeder who thinks unwholesome conditions harmless is, therefore, throwing away good money. The one sure road to profit in hog raising is by way of cleanliness and sanitation through use of

Dr. Hess Dip and Disinfectant

It destroys lice, the cholera germ, in fact, all germs of infectious diseases, when sprinkled about the premises. Powerful, harmless, easily applied. Make a solution, one gallon of dip to 70 or 100 gallons of water. Spray with this thoroughly. Prepare a plank-sided wallow and let the hogs roll in the dip solution. This treatment will end lice and, in addition, render hogs immune to cholera and other infectious diseases.

Dr. Hess Dip meets the Government requirement for sheep scab. Best thing known for sheep ticks and for spraying horses and cattle. Also a valuable agent for disinfecting sewers, sinks, drains and outbuildings. Write for a free dip booklet.

DR. HESS & CLARK, Ashland, Ohio



Saved 23 Percent on Feed Bills and produced healthier, stronger, sleeker and fatter stock. That's the actual record of one man who fed

DeSoto's Brand Molasses

Molasses is high in carbohydrates but low in cost. Animals like it—thrive on it. Horses have more "work energy"; cows produce more milk. Feed molasses to your stock for a month and note results. Write for free booklet, "Feeding Molasses." Tells how to properly mix rations for different stock.

John S. Sills & Sons, 606 W. 37th St., New York City

SHEEP

IT PAYS TO BUY PURE-BRED SHEEP OF PARSONS. "The sheep man of the east" I sell and ship everywhere and pay express charges. I will start one man in each township. Write for club offer and descriptive price list. Shropshires, Ramboulets, Polled-Delaines and PARSONS OXFORDS. Rt. 2, Grand Ledge, Michigan

PINEHURST SHROPSHIRE—RAMS and ewes for sale from the BEST SHROPSHIRE FLOCK IN AMERICA. Send for Catalogue to Henry L. Ward, well, Box 31, Springfield Centre, Ohio Co., N. Y.

Registered Shropshire Yearlings, and Lamb Rams. Lambs weighing 100 to 150 lbs. Wool & mutton type. G. P. Andrews, Danville, Mich.

HORSES

LOCUST GROVE FARM. I now have for sale a fine bunch of Percherons, Belgian and Hackney Stallions and Mares, from weanlings up, of which I will sell as cheap as any firm in the business. Dr. O. M. Trosky, Mountville, W. Va.

IT PAYS You to mention Pennsylvania Farmer when you are writing to our advertisers.

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You can go out in the wet as often as you please if you treat your shoes two or three times a season with

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Waterproofing for Shoes

Keeps the leather soft, pliable, waterproof; makes shoes wear longer; doesn't make them sticky or oily; doesn't change their appearance, for black or tan shoes.

Get a can at the shoe store or of your general store keeper. If they haven't it, send us your names and 25c and we'll supply you.

25c full size can

In Canada, 35c.

Get a can at the shoe store or of your general store keeper. If they haven't it, send us your names and 25c and we'll supply you.

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Philadelphia, Pa., October 11, 1913.

WHAT IS OFFERED THIS WEEK?

Did it ever occur to you that the most tactful and considerate way in the world for a merchant or manufacturer to present his proposition to you is thru a newspaper advertisement?

The advertisement never intrudes, never bores, never insists. It awaits your convenience and is satisfied with whatever you may wish to bestow upon it.

But when you are ready, there you will find it, with its truthful information about something some man has for sale.

Before you lay the paper aside, look over the advertisements and see what is being offered this week.

We believe that every thinking farmer will be interested in the article on the first page of this issue, discussing briefly an agricultural credit system at hand and ready for use. Many advantages in the adaptation of the popular building and loan association plan to rural needs are readily apparent and there are many reasons why farmers might well prefer the development of this plan to meet their requirements over the many reforms that are now being suggested. Its greatest advantage lies in the fact that its organization and management would be entirely in the hands of the farmers participating. It is a community enterprise, and may be operated entirely within the limits of a country community where every member may know exactly what is being done, for what purpose and with what results. It is an ideal co-operation idea, and it would provide a simple credit system for the persons and purposes needing such a system. The prevailing opinion with the would-be financial reformers who are now giving attention to rural credit matters seems to be that every farmer is fairly willing to mortgage his farm or increase the present mortgage indebtedness on his property. Most of their schemes are being put forward with that idea uppermost. They seek to fix the maximum amounts which farmers can borrow upon their property, the rates to be paid, the time of loans, etc., but always with the land mortgage as the basis upon which to float such loans. It is not the land owner with attachable

Pennsylvania Farmer

October 11, 1913

property that is in greatest need of easier credits, and the future development of the industry does not depend upon opening the way for cheaper money to this class of farmers. What is needed is a means of helping the poor, but ambitious and honest to secure a foothold; to attach this class of workers to the farms; to discourage tenant farming by making it easier for good tenants to become land owners; and to help the new land owners to hang on and keep going until they have paid for their property. The man with property can now borrow all that it is safe to lend on a purely mortgage basis; and he can borrow on fairly reasonable rates. It is the man without property, but with ambition and character that is in need of help. These are qualities which can never be made the basis of credit in a state or federal banking system. They are negotiable only in local communities, where they are recognized as so much capital; and it is only the local banking institutions that can safely transact business with these needy classes on the security which they have to offer. European countries have met this condition with their co-operative credit banks, built to meet local needs and based on local conditions. Do not the building and loan associations, which have been so successful in our American cities, suggest the logical plan to meet the requirements in our American rural communities? We would like to have our readers give this matter some careful attention, and then let us have your views for publication. Farmers need to study the so-called rural credit problems. It is evident that some sort of "remedy" is forced upon us. We have a right to help diagnose our own ailment and then have something to say about the remedy prescribed.

Maintenance and Cost.

The road bond advocates are using two arguments which are difficult to establish singly, and which fail utterly when brought together. First, they tell us that the bond amendment is the only thing that will give us permanent roads that will be maintained. Second, they claim that the bonds will not prove a serious burden on anyone; that \$580,000 per year will pay the interest and principal on the \$50,000,000 in a period of 50 years. The inference which the voter is supposed to draw is that the proposed amendment will give us permanent roads, perfectly maintained, at an annual cost of \$580,000. Present experience with state roads already built in this state demonstrate that permanent roads are a myth; that in a period of 50 years the maintenance cost will many times exceed the first construction cost. The experience of New York State with the bonding system shows the weakness of the maintenance argument combined with the statement of cost. New York has spent the proceeds of one issue of \$50,000,000. Commissioner Carlisle, of the new Highway Advisory Board, in reporting on the results of the work done gave figures which may be summarized as follows: The state has spent \$50,000,000 on a system of 11,000 miles of road; has an additional deficit of \$7,000,000 on the work now done; requires \$100,000,000 more to complete the present authorized system and would then have only a "broken web of highways bristling with dead ends," which would require \$250,000,000 more to connect up into a complete system. All of this for construction alone. In Massachusetts, where natural soil conditions are exceptionally favorable for road building, the maintenance cost on "improved" roads is \$300 per year. Experience indicates that the cost in New York is much higher, and in Pennsylvania would also be higher; probably

close to \$500 per mile. At a cost of \$500 per mile, it would require \$4,500,000 per year to maintain the 9,000 miles contemplated under present plans in this state. Commissioner Carlisle now recommends that the present system in New York be abandoned, and that the mileage under state control be cut to 6,000 miles. This is the experience of a neighboring state with the system which is being held up as the one which will insure permanency and maintenance, and at the insignificant cost of \$580,000 per year. Regardless of promises of economy and careful business management, we can expect similar results here, and the two pet arguments of the bond boosters fail. Either the roads will have to be abandoned when the first \$50,000,000 are expended and when the politicians' zeal for road building dies out, or the state will be plunged into a position where it will have to continue to spend millions to save the millions already invested. Remember, too, that the total road mileage of the state is over \$7,000. The 9,000 miles now included in this extravagant scheme make up only 10.3 percent of the roads of the state.

The Underwood-Simmons Law.

President Wilson on the evening of October 3. This is the first Democratic tariff revision legislation since 1894, and one of the most far-reaching revenue measures passed in many years. Many of its provisions will become effective at once, while others are to be enforced from time to time as stated in the text of the law. The general effect of the law upon all classes has been variously estimated, such estimates usually being based upon or influenced by political convictions of advanced for political purposes. The framers of the bill are making rather extravagant claims for its ability to reduce the cost of living, and in this they lay particular stress upon the reductions which have been made in rates on agricultural products. In other classes of commodities, the bill remains a protective measure, although reducing the average percentage of tariff rates as compared to the value of all imported merchandise, to 27 percent against 37 percent under the old rates. Farmers may well question the justice of wholesale reductions on food products grown on the farms in the interests of consumers, while manufactured articles which contribute to the cost of living in equal measure remain "protected." If the framers of the bill are correct in their prophecy that living costs will be reduced, it can come only thru the influence of the law in reducing farm prices. It is even more probable, however, that under existing marketing conditions, the new law will be used as a means to reduce prices to producers with little or no benefit to consumers. This must be determined by a study of the operation of the bill when it is in force. Next to the expected effect upon the cost of staple commodities, the new income tax, applying directly to the incomes of citizens, is of greatest importance. This is expected to make up in government revenues much that is lost in reduced tariffs. The effect of the measure upon revenues, as compiled by a senate committee, includes additions to the free list amounting to \$147,000,000; estimated revenues from all import rates, \$249,000,000 as compared with \$305,000,000 under the old rates; estimated revenues from corporation and income taxes, \$122,000,000 as compared with \$37,000,000 from the same sources under the old law; admitting more than \$1,000,000,000 worth of foreign merchandise per year free of all tariff as compared with \$880,000,000 per year under the old law. When the

tariff is entirely removed from wool, sugar, iron ore and cheap iron, the latter item of comparison will be greatly increased. The President is to be commended for his efforts in securing the passage of the law at such an early date. The legislation was inevitable, and regardless of the effect of the new rates upon specific business interests, general business will be safer under known conditions than under the uncertainties of long delays. The administration will be judged largely by the effect of this legislation in the next three years, and the result should also go a long way in determining the wisdom of continuing to regulate tariff laws by political parties or by a special tariff commission.

STATE CAPITAL NEWS.

Scale Parasite in Many Counties.—State Zoologist Surface is authority for the statement that the parasite which destroys the San Jose scale has been found in many of the central counties of the state and is bound within a few years to be general throughout the state. The parasite, whose multiplication is as rapid as that of the dreaded scale seems to have propagated very fast in some counties. Efforts are being made to breed the parasite and the bugs will be distributed to northern and western counties where owners of orchards have had to fight to keep down the scale pests. The attention of the orchard inspectors and demonstrators will be called to the parasite when they meet here the latter part of the month for their annual discussion and instruction in methods preparatory to commencing the winter work. The parasite is eliminated by the use of the winter settlement and everyone will welcome settlement in court at an early day. This controversy was responsible for shutting out of important road work. Either the legislators should take better care of provisions of the bills passed or there should be an end to hair-splitting on Capitol Hill. The dispute has been magnified all over the state and it seems needless to have two big departments fighting over it as the welfare of Pennsylvania depends upon the conclusion of the word "all."

Fish Culture.—Officials of the State Department of Fisheries are planning greatly to increase the output for next year and it is expected that plant of trout and bass next year will be greater than known before. Three of the hatcheries are being enlarged and in Philadelphia the propagation of shad and sturgeon for the Delaware is to be taken up seriously.

Engineers to Meet.—Engineers of the State Highway Department will have a conference this fall to outline work for next year. The engineers will have reports from the superintendents on the extent of repairs that will be necessary on main and state-aid highways next winter and where reconstruction should be undertaken in the spring. The condition of roads is now being gone over carefully and extensive reports will be made.

Rabbit Laws.—State game warden and state police have been warned to look out for violations of the rabbit law. The hunting of cottontails will be in order for some weeks and all reports have been received that rabbits are being shot, although in no case has it been reported that the animals are damaging the property of any farmer. Most of the hunting has been done by eager city chaps.—Harrisburg, Pa., October 6.

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the outbreaks being small and widely scattered. The vaccination methods of the state board have been bringing good results wherever administered. The summer was not marked by much disease among swine and officials are inclined to regard the general situation as satisfactory.

Reserves Opened to Children.—By formal action at its last meeting the State Forestry Commission opened the state reserves to the children of the state for recreation and nature study as well as the gathering of nuts. The commission will allow visits to the reserves subject to a few rules which include obtaining permission of foresters and promise not to damage trees or shrubs. The kindling of fires, except under the state regulations, is prohibited.

Many organizations of Boy Scouts will likely avail themselves of permission to camp in state reserves this fall. After Law Violators.—Agents of the state dairy and food division have been instructed to get closely after merchants who fail to placard cold storage food when offering it for sale. Either bad design or negligence it has been found that people selling chickens, eggs, butter and meats in stores have not been carrying out one of the most important requirements of the law which states that all cold storage goods be marked "Wholesale Cold Storage Food" so that it shall not be placed in competition with the fresh farm produce. Imposition of stiff fines will cause this practice to be taken generally. The bulk of the violations have been in the two larger cities.

Road Fees Case.—After much delay the courts have been asked to decide whether the income from automobile licenses is to be paid to the Highway Department for work on roads. The state is familiar with the political rivalries and the opposing positions of the officials in charge of this matter, and everyone will welcome settlement in court at an early day. This controversy was responsible for shutting out of important road work. Either the legislators should take better care of provisions of the bills passed or there should be an end to hair-splitting on Capitol Hill. The dispute has been magnified all over the state and it seems needless to have two big departments fighting over it as the welfare of Pennsylvania depends upon the conclusion of the word "all."

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Large College Registration.—The total registration in the New York College of Agriculture, at Ithaca, is over 2,000. The registration of regular students is about 1,300. Last year the registration was 1,118. This does not include the short-term students or the winter course students. It is said that the large increase is due to the large demand for extension and welfare work and to the increase in college activities.

Warren Co., Pa. (N. W.), September 20.—Cool, very dry, with light rains recently. Live stock very high. Corn a fair crop, but badly damaged by frost, September 14th; potatoes, short crop, selling from \$5c@\$.100 bu; butter, 33c; eggs, 28c. Farmers busy sowing wheat, filling silos and threshing.—Clyde Firtz, Adams Co., O. (S. C.), September 27.—The drought has been broken by copious rains; beautiful fall weather the past week; heavy frost on morning of September 23, which damaged tobacco and tomatoes in places; eggs along the creeks and Ohio River saved tobacco and corn along the streams from the effect of the frost. Farmers are in the midst of wheat and rye seeding; a large acreage will be sown; ground is in splendid condition for seeding; the hulling of clover seed has been delayed because of recent rains; some farm sales now being held.—W. E. Roberts.

Bradford Co., Pa. (N. E.), September 30.—Warm, with cool nights; killing frost September 8. A recent heavy rain started up the pastures; fresh cows bringing \$75 each and in good demand; a poor corn crop was killed by the heavy frost and silos are being filled with poor stuff; help is very scarce and high priced. Much buckwheat has been abandoned as too short and poor to cut. Other work pretty well caught up.—L. C. Burroughs.

Ocean Co., N. J., September 27.—Early sown grass looks very promising. Some have reseeded their grain stubble, where it failed in spring sowing by the use of disk harrow or drill to loosen up the ground. Frequent showers have resulted in a good stand. Alfalfa on one land very poor stand. Rye sowing is late on account of slow ripening of and hence the cutting of corn. Some silos to be filled; a few more contemplated for next year; some farmers waiting for the reports from the tile type of silos as to keeping results. Three have been built near the line of the U. T. R. R. and if these are a success, they

will replace the wooden ones as they decay. Dairy men are learning that there is more money in silos, as the corn made into silage results in more milk than when fed in the mature state.

Greene Co., Pa. (S. W.), October 2.—Showers. Live stock very scarce. Good cattle, for feeders, 7 cents per lb.; best wethers, 4 cents per lb.; pigs, \$6.00 per pair at weaning; wheat and potatoes very poor; wheat, 90 cents a bushel at mill; potatoes, \$1.00; eggs, 28 cents; butter, 32 cents. Wheat mostly sown and corn on account of drought during growing period.—C. E. Alderman.

Luzerne Co., Pa. (E. C.), October 2.—Weather wet and unsettled. Live stock scarce. Corn, average crop; potatoes, rather short crop; corn, 90c; wheat, \$1; rye, 75c; oats, 60c; potatoes, 90c; buckwheat, 70c; eggs, 35c; butter, 35c. Farm work is advancing fairly well; general conditions about the average.—N. C. Brown.

Valuable Bulletins.—The commissioner of agriculture calls attention to Bulletin No. 51 just issued which he would be glad to send to all farmers asking for it. This bulletin contains the agricultural law with amendments made last winter; also certain provisions of the county law, town law and general business law; the law relative to weights and measures and a number of other independent legislative enactments relating to agriculture. The department as well as the State Experiment Station are continually issuing bulletins on a great variety of subjects which farmers can have for the asking, and as their money helps print them they should feel entitled to ask for copies.

State Fair Profits.—Approximately \$50,000 will be turned into the State Treasury this year by the New York State Fair Commission, representing the profits of the 1913 exposition. The net proceeds will exceed those of last year by about \$15,000. Motion pictures of the crowds and other animated features at the fair last month are to be placed on exhibition, beginning May 1 next. These pictures involve the use of 2,000 feet of film. The movies will be syndicated to 785 motion picture theaters in the state.

Forthcoming Farmers' Meetings.—The New York State Dairyman's Association will meet in Syracuse, December 9 to 12. Poultry Show, Madison Square Garden, New York City, December 26 to 31. New York State Fruit Growers' Association, Rochester, January 7 to 1, 1914. Western New York Horticultural Society, Rochester, January 28 to 30, 1914.

STUDENTS ENROLLED IN PENNSYLVANIA SCHOOL OF AGRICULTURE.

Following is a summary of the enrollment by classes in the School of Agriculture in Pennsylvania State College for 1913-1914: Seniors, 133; juniors, 144; sophomores, 180; freshmen, 243; first year two-year men, 144; second year two-year men, 85; specials, 12. Total, 951. Total enrollment of the college, 2,056.

No new students were admitted to the four-year courses who had deficiencies in entrance requirements for the freshman class. Otherwise this class would have been much larger. One hundred and forty-four men were admitted to the first year of the two-year course. With the limited facilities, this was all that could be accommodated. Many applicants for admission to the two-year course were turned away.

COUNTY NOTES.

Warren Co., Pa. (N. W.), September 20.—Cool, very dry, with light rains recently. Live stock very high. Corn a fair crop, but badly damaged by frost, September 14th; potatoes, short crop, selling from \$5c@\$.100 bu; butter, 33c; eggs, 28c. Farmers busy sowing wheat, filling silos and threshing.—Clyde Firtz, Adams Co., O. (S. C.), September 27.—The drought has been broken by copious rains; beautiful fall weather the past week; heavy frost on morning of September 23, which damaged tobacco and tomatoes in places; eggs along the creeks and Ohio River saved tobacco and corn along the streams from the effect of the frost. Farmers are in the midst of wheat and rye seeding; a large acreage will be sown; ground is in splendid condition for seeding; the hulling of clover seed has been delayed because of recent rains; some farm sales now being held.—W. E. Roberts.

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UNDERGROUND WATERS FOR FARM USE.

"Underground Waters for Farm Use," a popular report of the United States Geological Survey, has again been reprinted to meet the wide demand from all farming and suburban sections of the country. A copy can now be obtained free, on application to the director, United States Geological Survey, Washington, D. C.

This Water Supply Paper (No. 225) explains in simple language the habits of flow of underground waters thru different kinds of rocks and soils, and calls attention to the dangerous character of many wells whose waters are supposed to be pure and wholesome. Water from limestone rock especially, it is stated, is apt to contain germs of typhoid or other disease, due to the fact that surface waters may find their way directly into underground canals which have been cut out through the dissolution of the lime.

Methods of protection from subsurface drainage in farming districts are discussed in the report, well-drilling methods and cost, types of wells and well casings with which wells should be fitted, etc. The report embraces only about 50 pages, but is well illustrated with photographs and diagrams.

WINTER COURSES IN AGRICULTURE.

The winter course in agriculture at the Pennsylvania State College begins December 3 and continues twelve weeks. These courses have been established for men and women who cannot spend a longer time in study. For a number of years a great many students have been able to spend twelve weeks during the winter in getting into touch with the science which the men at our agricultural colleges have today.

These courses are practical and will help to increase net returns from the farm. The work is offered by subjects so that a student may have better opportunity to specialize if he so desires. If he is interested in agronomy, dairying, horticulture, animal husbandry, or in a general way, his needs may be met. There are hundreds of young men who could be benefited and have their earning power increased by taking this course. The entire expense, including room and board, which is the largest item, need not exceed \$85, and may be less. Anyone interested should write for a winter course bulletin.

One week during the short courses is set aside for Farmers' Week and every farmer in the state should plan to attend the exercises of this week. The date is December 29 to January 3. Programs of Farmers' Week will be ready for distribution soon. All inquiries should be addressed to The Department of Agricultural Extension, State College, Pennsylvania.

Commercial Feeding Stuffs.—Bulletin 171 of the Vermont Experiment Station dealing with commercial feeding stuffs, goes into a discussion of the analytical results on some of these foods, giving information in relation to the character, composition, value and use of these foods. It is well worth a reading to the farmer who may be interested. The bulletin is mailed from Burlington, Vt.

Spraying Equipment.—Everyone interested in spray equipment should secure a copy of the new catalog recently issued by the Field Force Pump Co., 711th St., Elmira, N. Y. This catalog lists and describes a full line of pumps, hand and power sprayers, tanks, nozzles, fittings, etc., giving full descriptions and prices.

Grange

McSPARRAN'S GRANGE NOTES.

Who Pays the State Taxes?



In connection with the question of raising money for roads has come the bald statement that the corporations pay nearly all of the state taxes, and therefore we need not be particular about bonding the state because, as farmers, we will not be called upon to foot the bill to any large extent. I was amused at the way one man had it worked out in a speech. He had the amount that each township had paid in in state tax, and it was a paltry sum. Then he showed how much would come to that county out of the bond issue, and, of course, it was a much larger sum.

I say I was amused, because it looked as tho he had not read the proposition when he spoke of each county getting so much. The fact is there is nothing in the issue as it now stands that guarantees any pro rata share to the counties. That part had been carefully amended. The proposition is a boulevard proposition, pure and simple. But to come back to this tax question, who does pay the state taxes? When a farmer pays tax he pays it out of his own pocket. He does not get a cent more for potatoes when his school tax is 5 mills than when it is 4 mills. He does not get more for milk because road taxes were higher than they were the year before. He does not pay his tax and then add a profit to it, and pass it on to some one else. I feel safe in saying that the greater portion of the taxes raised locally are paid by the people against whom they are assessed.

How about the state taxes? Money at interest pays 4 mills state tax, but very often the payment of the tax is shifted to the shoulders of the person who borrows the money. The railroad pays the tax and then adds it to the rate charged for service. Of course it does not figure directly because in many cases they are put at what the traffic will bear.

The Susquehanna Coal Company has sent out their sales agent that they will add 8-11 cents a ton to the mine price to cover the tax laid by the last legislature on coal. The merchant pays his mercantile tax and figures it as an expense to be added to the cost of goods handled. And so it happens that in very many cases the state tax is paid by the same person who pays the local taxes, and at least it is not paid by the persons against whom it is assessed, but is shifted to the consumer of the service or the goods.

It follows logically then that because a person does not pay state tax is no reason for supposing that he is not directly interested in the handling of the monies raised by state taxes. But there is another reason why every person is, or should be, interested in the appropriations of state taxes. Some of us are foolish enough to cherish the hope that at some day, not more than 300 years hence, Pennsylvania will rouse up from her political lethargy and establish an equitable tax system. The present division of property for tax purposes is an outrageous injustice to the home owners of Pennsylvania. If all classes of property paid all the taxes, state and local, it would not only help to equalize the burden of taxation, but it would more nearly establish the actual value of property and thus to

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away with lots of watered stock and fictitious values.

As citizens we pay the local taxes out of our own pockets. As consumers we pay our share of the state taxes and often with a profit added thereto. So everyone is directly interested in how the state's money is spent. It is not another's money, but your own, that is being spent.—John A. McSparran.

THE BOND ISSUE AS A BUSINESS PROPOSITION.

The bond advocates are busy trying to create the impression that those who oppose bonds also oppose good roads. It is hardly necessary to say that this is false. There is no one opposed to good roads so far as I know, especially not farmers in general and grangers in particular. Yet, most farmers oppose the bond issue, and few grangers there are indeed who do not. We believe that we will get better roads just as quickly and far more cheaply without borrowing money than we will with it. Fifty millions, practically in hand, will be too strong a temptation for the grafter to resist, and the party boss will not be slow to see what use he can make of it to strengthen the machine.

If the bond advocates were actuated only by the desire for good roads they would have seized the opportunity offered in 1911, when the lower house of the legislature passed a bill placing a one mill tax on personal and corporate property for road purposes. Such a tax would burden no one, and it would yield over \$7,000,000 annually. Had the bond people joined in and helped to get the bill thru the senate and past the governor, they would have had at least three times \$7,000,000 to use on the roads before they can borrow a dollar, even if the people approve the amendment, and there would be no interest to pay.

Business men and corporations do not conduct their business in the way proposed. They borrow money only when they must have it and can get it in no other way. There can be no valid objection to the one-mill tax. Corporations now pay only 31 mills on the dollar, while real estate pays five times as much. Nor is that all; they will have it to pay in the end, and the interest besides. The state gets its revenues from them, so, if we borrow, they will have to foot the bill. Let the farmers not be deceived, however. They will get the bulk of it back onto him. The one-mill tax, however, is not the only source from which the state can get the money without borrowing. The tax commission, appointed in 1909, in its final report last winter said that if the bonds of corporations were taxed in the hands of the corporations issuing them instead of the holders, as now, the state revenues would be increased \$10,000,000 per annum. They prepared a bill providing for this. It was right in principle. Why did not the department and the good roads organizations join in and help to get it passed? With it they could have built the roads and saved the interest. It would not have been quite such good material for political fences.

Again, when Mr. Young retired from the auditor general's office he is reported to have said that if all of the taxes due from corporations were collected the revenues of the state would be increased from \$5,000,000 to \$10,000,000 annually. Why not collect the taxes and there will be no need to borrow? In fact, Mr. Sisson, who has just retired from the auditor general's office, did succeed in collecting some \$2,000,000 a year more by making some people pay tax who had been escaping before. For let the state taxes as closely as local taxes are collected, add the 2 or 24 mil-

lions of interest, the one or more millions of sinking fund to the money now annually appropriated for roads, and it will not be necessary to look farther for all the money that the Highway Department can economically use.

These are not all of the possible sources from which the state can get additional revenues if necessary; but they are surely enough to show that borrowing is indefensible.—J. T. Allman, Juniata Co., Pa.

MONEY ALONE WON'T BUILD OUR ROADS; NEITHER WILL A BOND ISSUE.

Upon one occasion I had been addressing a crowded meeting of road supervisors, good road students, autoists and farmers who "kicked" against our country road conditions. The meeting was a convention of the road supervisors of Fayette County. I had been showing what wonderful results had been accomplished in my own home township in Lancaster County by the intelligent direction of work. The convention audience had been made acquainted with the simple, economical methods of transforming a neglected, undrained and dangerous 66 miles of country roadway into safe, smooth, respectable township highways, by the King drag patrol system.

What actually was accomplished in our own Lancaster County township could likewise be accomplished in any other township of our state. This fact every man in the audience was beginning to realize, when a gentleman arose. He was Mr. Foster, who now occupies the position under our state highway commissioner of chief engineer. This gentleman is a skilled civil engineer, yet in the face of real proof of country road improvement at a minimum of public cost, he had the downright "nerve" to say to the audience, "Now, gentlemen, I am going to talk to you about real roads."

The kind of roads he meant—the real roads, as he expressed it—were the \$15,000 to \$30,000 per mile type of roadway. His address was resplendent with illustrations of magnificent roadway feats of skilled engineering, for he was the official road engineer of rich Allegheny County, Pa. But during his entire address, which was most excellent from a \$15,000 per mile standpoint, Mr. Foster failed to tell us how to fix our roads now in the farming communities where there is no \$15,000 road fund. Further than this, the type of highway our present state engineer was describing constitutes but a very small percent of the sort of country roads we folks who live in the country have to travel.

The point which interested me was "Where does the farmer come in; where the country merchant; the country doctor? Are not these folks the ones who use the country roads where you would likely be taunted and 'mobbed' were you to suggest using up \$15,000 of good money to construct a mile or less of roadway to the utter neglect of all the other township highways? And I thought that if Mr. Foster and every other good roads man who can only think in terms of thousands of dollars per mile for road construction were to build all our roads and be responsible for all of them (to say nothing of maintenance during the future years) it would mean that we folks who live in the country could not expect much from the State Highway Department.

It is idle speculation to hope that a \$50,000,000 bond issue will give to the traveler of our rural districts the good roads that will help him. The State of New York thought a bond issue was all right several years ago. The people voted for it with the idea that nearly

every country road would immediately be macadamized. Then when such a dream was not realized, and the \$50,000,000 was all spent, the expert road engineers with such strictly scientific construction ideas wanted another \$50,000,000. This caused the populace of New York State to become aroused, since which time there have been all sorts of exposures revealing that something more than money is required to give our communities good roadways.

What is this something? It consists of two words—intelligent workmanship. Road officials might expend large sums of money for road-making machinery with all the latest improvements. But neither money nor machinery alone will make a solid, well-crowned, smooth highway. Intelligence must be there to back things up. Every mile of ordinary country earth roadway in every township in Pennsylvania should be under the direct charge of a competent road patrolman. This patrolman's responsibility should be fixed. He should have only a short road section to keep in good condition, of from one-half to one mile. He should be paid 5 or 6 cents more per hour for his road labor than the ordinary day laborer. His intelligence should be capitalized. Our country earth roads to be improved must have a plan back of the effort. And 75 percent of this plan should be to maintain drainage. I mean by this both underground drainage, and surface side ditching. The water must be made to run off of the road into the side ditches where it belongs.

There are endless opportunities for this sort of a road plan to be worked out in every country community by our road officials, but somehow in the general cry for good roads most folks think only of macadamizing processes, with all the attending twists and crooked channels for diverting the public funds into private pockets instead of into intelligent workmanship on our roadways.

We all know the old way of road fixing. It is still in force. Once each year the road officials hook six horses to the heavy township road scraper. I would usually be in summer, after crop planting, when it suited the workmen best. The question of when it is the best time for the road does not enter into the proposition very much. The side gutters would be "cleaned out," and everything within reach of the scraper's blade would be pulled up into the middle of the roadway. There would be left, and this mass of sticks, stones, grass, loose dirt, and chunks of mud is expected to constitute the annual period of "making roads," to be washed back again into the side gutters awaiting the "road making" of next year. Of course, this road making custom could be considered as a joke were it not so utterly disreputable. And yet we hear such a loud hue and cry for a \$50,000,000 state loan to fix the roads, when in reality it isn't the roads so much as the intelligent educating of our road officials that is necessary.

A recent road law framed by Representatives Jones and Gibson, passed September 1 and continues until the end of the month. It was announced by the clerk of the court at Towson, the county seat, that 1,200 gunners' licenses had been issued by his office before the season opened, and that he expected at least 100 more to be taken out on the day when hunting was permitted. Most of these permits or licenses are no doubt taken out by city people, for the average farmer is usually too busy making a living to indulge himself in the noble pastime of wandering over some other man's fields, dressed in a khaki suit and carrying the necessary sporting paraphernalia. If all those who had thus secured the right to shoot squirrels in Baltimore

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road section, Pennsylvania roadways would be transformed within one year in every country community in our great state as we did here in my own home township in Lancaster County.

After our state highway engineers had gotten our country roads properly drained, they could keep them well maintained by having their road patrolman drag their road sections after every rain. This would give us the good roads we want, and give them to us right away. Gradually such roadways as form the larger arteries of travel could be permanently improved with stone construction. But the first thing our Pennsylvania roadways need is to be drained. There is not a township road supervisor board in our state that could not drain its roads by blasting out rock which obstruct a sluiceway channel, putting an underground drainage pipe, and gradually building a road crown with a King drag so that the road bed will shed its water into the side ditches.

This is what we need in our Pennsylvania road affairs today more than we do the \$50,000,000 bonding talk. There is too much prospect of something "soft" ahead for our road contractors to fall upon, in these complicated and enormous road construction contracts. Meanwhile, the study of practical road methods, of drainage and maintenance is lost sight of because our highway department engineers do not take their coats off and get down among the farmer road officials and compel intelligent workmanship to be the product of their road labors.

Our State Highway Department could just as well as not have a system of county road improvement schools. A stretch of roadway maintained by a road patrolman with a King drag could be used in every township as a text book illustration. Every local road official could be compelled to pattern his road workmanship after the sample "school" stretch of roadway. Monthly demonstrations, or more frequent, could be arranged for, and it would not be long before popular attention would be strenuously diverted to the matter of intelligent workmanship upon every mile of our roadways, instead of expecting a \$50,000,000 bond issue to prove the magic remedy.

No, I'm not for the bond issue. I'm for making every dollar expended yield up its full \$1.00 worth of intelligent workmanship upon our country roadways. Money alone will not give us the road drainage and maintenance we must have.—Dr. Donald McCaskey, Lancaster Co., Pa.

Looking Over The Fence.

By THE COUNTRY PARSON.

The Hunter Nuisance.

The season for shooting squirrels in Baltimore County, Md., opens on September 1 and continues until the end of the month. It was announced by the clerk of the court at Towson, the county seat, that 1,200 gunners' licenses had been issued by his office before the season opened, and that he expected at least 100 more to be taken out on the day when hunting was permitted. Most of these permits or licenses are no doubt taken out by city people, for the average farmer is usually too busy making a living to indulge himself in the noble pastime of wandering over some other man's fields, dressed in a khaki suit and carrying the necessary sporting paraphernalia. If all those who had thus secured the right to shoot squirrels in Baltimore

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county availed themselves of this privilege, an army of 1,200 to 1,300 sportsmen were tramping thru the fields and timber lots of the various farms on Monday, September 1, eagerly seeking a chance to shoot at some unfortunate object.

On August 30 of last year 655 had taken out such licenses. This year the number is doubled and the dealers in sporting goods will be gladdened accordingly. The season for bird shooting is yet to come. In 1911, 3,360 persons took out licenses to hunt in this one county, and in 1912, 4,166 hunter's licenses were issued.

I can imagine how the Baltimore County farmers feel about this invasion of their farms by an army of people who would be highly indignant if the farmer should dare feed his team in the street before a city residence. He has very little redress. He can post his farm with placards forbidding trespass or hunting only to find that shooting at such signs is considered good sport by people who resent his efforts to protect his property. He can order trespassing hunters off his place, if he cares to mockly take what they may desire to say to him after they are in the public road. He can also have them arrested if he can find a constable, and erect to waste time running to court.

Upon the whole, he is rather helpless and ordinarily makes up his mind to patiently endure what he cannot cure. If he makes any protest, it is apt to take the form of a notice recently printed in the Cambridge Record: "We have been requested by residents of the section around Maple Dam to ask gunners who are shooting for summer ducks to try and be careful how they scatter their shot, as it is reported that two young gentlemen yesterday shot a calf." "To try and be careful" is good. Certainly, we Marylanders are a polite and considerate people.

And so the dreadful slaughter goes on, with this result: The city huntsman who has been especially fortunate, now and then, invites his friends to partake of a squirrel or redbird pot-pie. On the other hand, Dr. William T. Hornaday, director of the New York Zoological Park and chairman of the National Commission on Wild Life Protection, gives warning that we are even now actually facing the probability of soon living in a birdless country.

This, if we may use the vernacular, is some price to pay for pot-pie. Dr. Hornaday also points out the relation between the wanton slaughter of insectivorous birds and the loss of crops by insect pests. He might have added the immense cost to the farmer and fruit grower of spraying, without which it is almost impossible to raise a crop of any kind.

According to the official table, the total loss of crops thru insect pests for the fiscal year 1912-13 amounts to \$420,100,000. One-tenth of the entire gross cereal crop of the United States or \$200,000,000 worth of bread, flour, oatmeal, etc., is annually fed to noxious insects. Ten or even five years ago the toll taken by them was comparatively small. One-fifth of all our fruits, to a value of \$27,000,000 is destroyed in the same way. The annual cost to the truck growers of America of these hunting licenses is \$45,000,000. Sixty million dollars' worth of cotton is annually destroyed by insects whose ravages were once held in check by a rapidly vanishing race of feathered creatures, with greater effectiveness than by the activities of the Department of Agriculture.

The farmer can stand the aggravation and humiliation offered him by pot-pie hunters tramping over his fields as if all out of doors were common property. He is somewhat accustomed

to being treated as if he had very few rights which other people are bound to respect. But can he, together with the city dweller who is complaining of the high cost of living, stand this annual loss of \$420,100,000, to which we must add the enormous annual expense of fighting an ever-increasing army of insect pests?

But what can we do about the matter? I see but one remedy: Place the protection of all wild life in the hands of the Forestry Division of the Department of Agriculture. Train our foresters to protect and foster wild life as is done by France and Germany. Issue all hunter's licenses thru this department and make hunting upon any farm or tract of land unlawful without such a license and the written permission of the owner. Create public sentiment by teaching all school children, both in city and rural schools, to love and protect our bird friends, who protect our food supplies. We may then have less redbird pot pies, into which they put robins and woodpeckers as well as bobolinks, but this loss will be made up by a

more abundant and cheaper supply of other more important foodstuffs.

GOOD VALUATION AND SINGLE TAX.

In the article in your issue of August 16th the assumption that the addition of a business block to a village or town has the effect of increasing the value of land under and around it, is positively incorrect. No business block ever did or ever will have such an effect. The value of land never was and never will be the sum total of the individual uses to which land it put. The people of the village or town suggested have created the value of the land beneath A's business block; also B's, C's and D's buildings. It strikes me, as a matter of common honesty, that what you make should be yours, what I make should be mine, and what we make should be ours. The single tax will make this a reality. To vacate today; why shouldn't they, under the single tax?—Charles D. Ryan, Montgomery Co., Pa.

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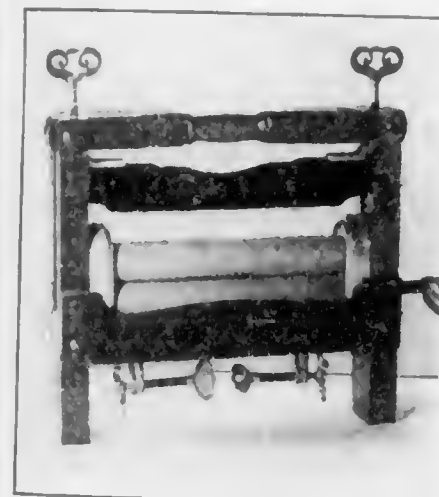
Household

HELPS IN THE LAUNDRY.

After having my laundry work done by others for a time I finally came to a very emphatic and definite decision. I would do the work myself. Our underclothing was sent home in a deplorable state and the outside garments were dreadful to behold. Smudges, wrinkles and scorched places caused my back to feel strong enough to take up the work.

Firm in my belief that women should save themselves when possible, I did not begin my laundry work by the old-fashioned rubbing one's life away on a washboard. I bought the best of washing machines and a wringer. Our laundry work had cost us \$1.50 a week, besides soap, flour and blue; and it did not take me long to calculate that a few weeks of the non-paid new laundry (myself) would entirely cover the price of the new machine. I urge every housewife who needs to do her washing to buy a good washing machine. If you do not have poultry or butter money enough to buy it, insist that your husband buy it for you.

During the two years that I have



A MUCH ABUSED HOUSEHOLD HELPER

I been my own laundress, some useful knowledge has been acquired, many little wrinkles from experience and some from magazines. If for any reason you have been unable to sprinkle your clothes over night and would like to hurry the ironing in the morning, use warm water to sprinkle, and fold tightly. In half an hour you can begin your work. If your underclothing is trimmed, iron the edgings carefully. If you are not going to "bring out" the lace or embroidery by painstaking effort, then make your clothes without trimming for poorly laundered laces are shabby.

When I begin ironing I have all my "implements" right at hand. A large pocket is tacked on the under part of my board and has a flap in which a button hole is worked. The button is on the pocket proper. In this pocket I keep a holder, a stand, a cloth for wiping the iron, wax, and, most important, a pair of scissors. The scissors are ready for trimming frayed neck bands and cuffs of men's shirts, the ravelings from unbuttoned centerpieces, and ever so many little uses. Whatever is necessary can be done as soon as the piece is ironed, instead of putting it away to be trimmed another time.

To iron the button side of a shirt-waist without tearing the buttons, lay the buttons down, in several thicknesses of an old sheet or flannel, and run the iron over the wrong side until smooth and dry. You will find a sheet folded several times a splendid ironing help. When ironing linen collars, embroidered waists and edgings you need a soft surface.

Laundering Delicate Waists.—Wash lingerie waists as usual, but do not starch. When dry, dip in the borax wa-

ter, using one tablespoonful of borax to one quart of warm water. Wring out and fold in a cloth for a few hours. Then iron dry. The waists will not get mussed nearly as soon as when starched, and are easier to iron. Use a small iron. Sprinkle some orris powder underneath the ironing sheet and you will find that it will give a delicate perfume to the waists.

Smooth Starch.—To have a nice smooth starch, put a few drops of cold oil in and stir until blended with the starch.

To Clean a Lace Yoke.—To clean the lace yoke of a gown without ripping it out, place under the lace a clean Turkish towel, folded to several thicknesses. Then scrub the lace well. An embroidery hoop is also of assistance and protection when cleaning a yoke. Put the soiled part of the yoke in the hoop and clean.

To Make the Iron Smooth.—You can buy commercial wax for a penny a piece ready for your iron, but I often use a cracker box—the paraffined pasteboard kind. Unfold the box, lay it smooth and rub your iron over it several times. You will find your iron soon ready to work. If your iron is exceedingly rough, take a handful of common salt and place on a piece of paper, rub the iron briskly thru the salt. It will tend to make it smooth then rub wax over. Be sure your irons are put away in a clean place; a soiled one can quickly make you trouble.

Should you have many fine pieces to be ironed and your wash day has brought other pressing work, do not attempt doing all the clothes; put some away for next day. You will live just as long. When I fold the clothes to be put away, those that need mending are put in a separate pile. It is with glowing satisfaction that the last garment is placed in its receptacle, the "implements" are returned to the pocket, the flap buttoned, the board put away, and the sheet laid aside.—Elizabeth O. Jean, Maryland.

CARE OF THE WRINGER.

Take the greatest care to keep every part of the wringer, especially the India-rubber rollers, scrupulously clean, and free from dust, soap suds and oil. After washing, if it is not to be used immediately, dry the rubber with a soft cloth. When the rubber gets greasy and dirty it may be cleansed by rubbing it with a damp rag dipped in a little turpentine. When not in use, unloosen the screw in order to take the pressure off the rollers.

Oil the working parts of the wringer occasionally, being careful to remove all traces of grease after doing so. Before applying fresh oil, wash the old oil out with hot water, soap and a brush. Never pass anything boiling hot thru the wringer, least of all starched things, as they spoil the rollers by roughening the surface of the rubber. If properly attended to the rubber will last for a long time, and when it does wear out the coating can be replaced and the wringer made as good as new.—Housekeeper.

DRY-CURING PORK.

A Well-Tested, Practical Recipe.

For each 100 pounds of pork weigh out five pounds of salt, two pounds of granulated sugar, and two ounces of saltpeter, and mix them thoroughly. Rub the meat once every three days with a third of the mixture. While the meat is curing it is best to have it packed in a barrel or tight box. For the sake of convenience it is advisable to have two barrels, and to transfer the meat from one to the other each time it is rubbed. After the last rubbing the

meat should lie in the barrel for a week or ten days, when it will be cured and ready to smoke. To cure nicely it is desirable to have a cool and rather moist place in which to keep it.

This recipe should not be used where the meat must be kept in a warm and dry place, as the preservatives will not penetrate easily and uniformly. This and a great deal of other information in regard to meats on the farm may be obtained by writing to the United States Department of Agriculture, Washington, D. C.

Pea Soup.—One can of peas, two cupfuls of cold water, one and one-half teaspoonfuls of salt, a bit of bay leaf, three tablespoonfuls of butter, three tablespoonfuls of flour, three cupfuls of scalded milk, one tablespoonful of chopped onion, and cayenne and celery salt. Cook the peas, bay leaf, onion, and cold water twenty minutes. Press thru a sieve. Make a white sauce of butter, flour, and milk. Combine the mixtures, add the seasonings, and then serve.

Spinach Soup.—Two quarts of spinach, six cupfuls of cold water, a bit of bay leaf, one teaspoonful of salt, three tablespoonfuls of butter, two cupfuls of milk, one clove of garlic or two tablespoonfuls of chopped onion, cayenne pepper and celery salt, three tablespoonfuls of flour, and one-half cupful of cream. Cook spinach in water for thirty minutes. Press thru a sieve, scald the milk with the onion and bay leaf, add the butter and flour cooked together, strain, add the seasonings and spinach mixtures; cook for five minutes and serve. Garnish with beaten cream.

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Black soil and plenty of corn. 1200 acres, 25 miles from Columbus, Ohio. Price \$100,000.00. OSCAR BAKER, Owner, Delaware, Ohio.

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"I lost five hogs from cholera; at least that is what

one expert pronounced the disease. I then started to feed 'Sal-Vet' and the remaining hogs have done fine ever since, and have developed tremendous appetites."—Joseph Lambright, Rt. 1, Box 59, Fishers Ferry, Pa.

"I can say that since feeding 'Sal-Vet' my hogs have been losing large numbers of pin worms and also some large intestinal worms, all of which were dead."—Guy M. Dietrich, Rt. 2, Wapwallopen, Pa.

"One of my young hogs would not eat until I

gave him 'Sal-Vet.' It not only restored his appetite, but expelled more than a peck of worms from him, and he no longer looks like the skeleton that he did before. I can recommend 'Sal-Vet' to do more than you claim for it."—(Signed) Samuel F. Meyer, Stouchsburg, Pa.

Don't Have Sick Hogs!

Get Rid of the Disease-Breeding WORMS Now—I'll Show You How or No Pay

I'll Feed Your Stock 60 Days Before You Pay

Read What the BREEDERS GAZETTE Says in the Aug. 27th Issue About

Wormy Pigs and CHOLERA

"Hog mortality is seldom so rampant at this season as now. Usually when new corn is available, but for weeks the stock yards have been full of the invalid and dying while reports from all sections of the country are alarming. It is called cholera, of course, but post-mortem results do not confirm this theory, as carcasses dress white and condemnations are few. Still they die, both mature hogs and pigs, and mortality in the country materially swells the market movement with refugees from the diseased areas, every pig thus sacrificed spelling further depletion of the food supply. A man 'who never had a sick hog on his place' argues that low vitality is responsible for much of this trouble, and that low vitality in turn is caused by internal parasites, worms, to use the vernacular. This worm theory is not a fool one by any means, and internal parasites undoubtedly entail heavy loss on growers of both hogs and sheep. They gradually ruin the bulk of the native lamb crop every year, and a pig raising country has no pretension to thrift. Perhaps the most complete and effective 'cholera' cure is the worm and pin worm medicine used successfully for worms."



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from worms—Let me help you save your hogs from the deadly plague that is now sweeping over your state threatening YOUR own neighborhood and carrying off millions of dollars worth of animals. The only hope lies in PREVENTION and the first step is to get rid of the deadly stomach and intestinal WORMS—the real cause of 90% of all live stock diseases. There is no known cure for the terrible plague, cholera, when once it settles down on your herd. But there is a SURE, SAFE, EASY way to destroy WORMS with SAL-VET. I'll prove it on your own farm 60 days BEFORE YOU PAY. I'll rid your hogs of these pests that breed disease—the thieves that steal your animals' food—suck their blood—sap their vitality and rob you of your profits. But if you want help don't wait until it is too late. Act now. Read my offer below.

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is a wonderful disease-preventing, worm destroying, medicated salt. A tonic, digestive and conditioner. It requires no dosing, no drugging, no starving, no bother at all. You simply place it where all your farm animals can run to it freely and THEY WILL DOCTOR THEMSELVES. I want to place SAL-VET before YOUR stock for the next 60 days—I want to prove to you what I have proved to thousands of other farmers. I'll take all the risk—I'll furnish the "Sal-Vet"—as much as you need—all you have to do is to feed it according to directions and report results. Then at the end of 60 days report results and pay if pleased. The cost is trifling—if it does everything I claim—and absolutely nothing if it fails. You can't afford not to accept my offer. Drive out the worms—head off disease—Save your Hogs—Save your Feed—FILL OUT THE COUPON NOW.

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SIDNEY R. FEIL, President
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How SAL-VET Saves Hogs

"The cholera has been killing hogs all around my home, but I have not lost a single one. I have never used so effective a remedy."—Safford Gent, South Haver, Va.

"I found 'Sal-Vet' to do just what you said it would. It is sure death to worms. More over, although the cholera has raged throughout this neighborhood, I have not had a single loss since feeding 'Sal-Vet.'—Joe Calhoun, Alexandria, Ind.

"The hog cholera is all around us in this neighborhood, but so far there is not a single case among the hogs belonging to the men who are feeding 'Sal-Vet.'—D. E. Knight, Housh, Pa., S. C.

"Hogs all over our county are dying in large numbers, and many right here in my town have lost hogs from some cause, but I could not wish mine to do better than they have since feeding 'Sal-Vet.'—D. E. Knight, Housh, Pa., S. C.

"Before getting your 'Sal-Vet' I had lost thirteen of my best hogs, but since feeding 'Sal-Vet' I did not lose a single one and every animal is in fine condition."—(Signed) Geo. Moore, R. No. 1, Pittsburg, Kans.

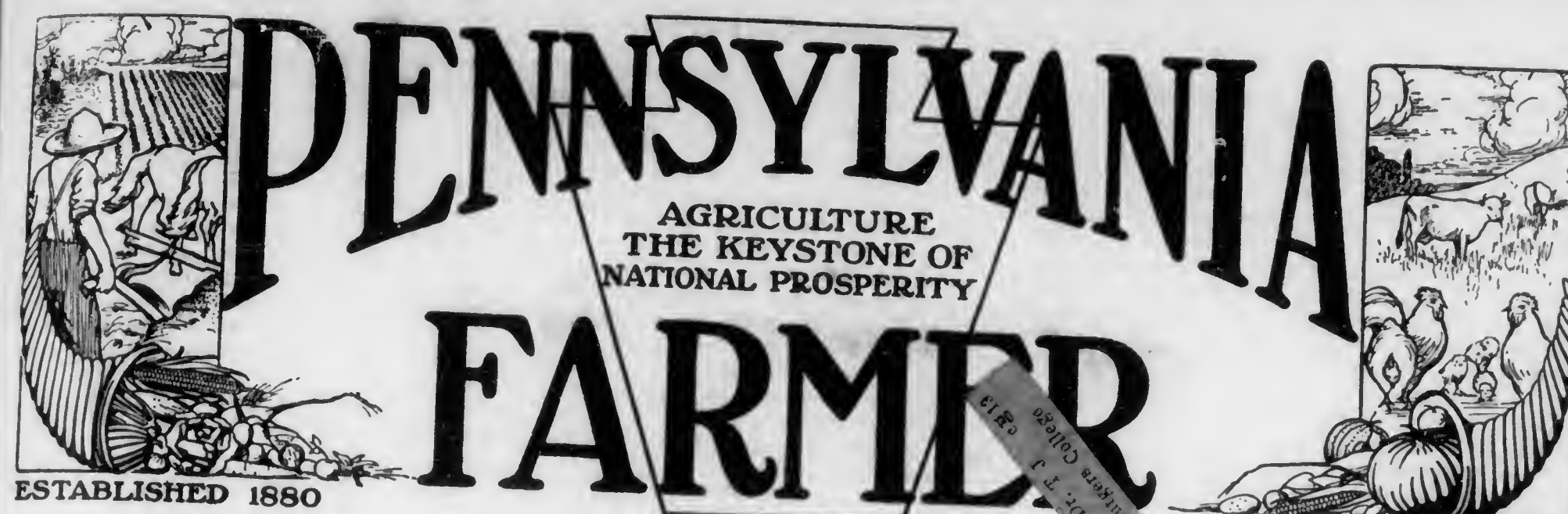
"Before I started to feed 'Sal-Vet' my hogs were sick, and I had lost six of them; since feeding 'Sal-Vet' I have lost none, although some of them were pretty sick before they had access to 'Sal-Vet' and had lost their hair. However, they pulled through all right and now have good appetites and are thriving."—Ernest Tietzel, Rt. No. 2, Clearwater, Minn.

"Sal-Vet freed my hogs from worms by the wholesale. I'll not be without it."—(Signed) Henry Iverson, Wacker, S. D.

"My hogs are doing finely; have kept 'Sal-Vet' before them for two months and while there has been lots of disease amongst hogs in this section, none of mine have been sick."—Geo. A. Elmer, Rt. No. 20, St. Matthews, Ky.

"I have kept 'Sal-Vet' before my hogs all the time, and I never saw them do so well. A lot of hogs died all over this part of the country, but mine have remained perfectly healthy."—Thomas V. Smith, Ellington, Mo.

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40 lbs., \$2.25; 100 lbs., \$5.00; 200 lbs., \$9.00; 300 lbs., \$13.00; 400 lbs., \$17.00. No orders filled for less than 40 lbs. on this 60 day trial offer. Never sold in bulk, only in Trade-Name Packages. Shipments for 60 days' trial are based on 1 lb. of "Sal-Vet" for each sheep or hog, and 4 lb. for each horse or head of cattle, as near as we can come without breaking regular sized packages.



ESTABLISHED 1880

VOL. 34.—No. 16

PHILADELPHIA, PA., SATURDAY, OCTOBER 18, 1913.

PUBLISHED WEEKLY

2 YEARS FOR \$1.00.

Eleven Miles of Tile Drainage.

Dr. R. B. Reitz, Jefferson Co., Pa.

Since the writer was old enough to successfully swing an old-fashioned mowing scythe, he has been interested in farming. He was interested, first, as a village boy, whose father believed in having his six sons made familiar with every branch of farm work. All of those sons now own farms. Afterwards, both before and after his graduation from classical and professional schools, his vacations were spent on the farm. Later, entering upon the active duties of his profession, his choice for summer occupation did not change. Trips to Europe, or in his own country, did not offer sufficient charm to supplant his fondness for active farm life.

It has been his fixed purpose to retire from the practice of his profession at sixty (eight years distant), to spend his declining years in digging and delving and pruning, and with this end in view a farm of 95 acres was secured one year and nine months ago, followed by the purchase of another of 175 acres three months later. Sixty-seven acres of the latter farm, exclusive of wood and buildings, is on the east side of the highway, and it is with this plot that this article has to deal. Its elevation, exposure, drainage and soil seemed to make it favorable for production of apples and peaches, which judgment was fully confirmed by experts who were consulted.

With a good opportunity to witness and engage in farming operations which stood for the best in his section, the writer became possessed with the idea that farmers fall short of realizing the profit which the soil and location warrant. The more he thought about it, the more he became convinced that much of the labor and expense of fertilization and seed are lost through lack of proper drainage.

Before drainage was so well understood as now, a draining impression was made upon me by a "stand" of clover on a field which had several drains recently cut. The increased height and thickness of the clover on the stand made the position of each drain readily apparent in the very first crop. Subsequently a good effect became general. A "catch" of clover became recognized as the most important step toward fertilizing and its maintenance, it followed that whatever tends toward increasing this result is of the first importance. Whatever may be accomplished by the application of lime, barnyard manure, or sewage down of green crops, without drainage much is lost in time and effort, and maximum results are impossible.

Drainage is the very foundation of successful agriculture. Its importance in relation to fruit growing was brought out prominently in a visit to the Orchard Farm of Mr. George T. Powell, of Columbia, N. Y. In driving thru his orchards, Mr. Powell called attention to certain trees which plainly were doing so well as their fellows because of an old-fashioned stone drain, which had become clogged, and where drains were in operation were uni-

form in size, thrifty and loaded with perfect fruit.

Having determined to drain before planting, every tree, stump and, so far as possible, all stones which would interfere with cultivation, were removed. This accomplished, an expert drainage engineer was secured to lay out a complete drain system. This proved to be an excellent investment. Nature favored draining operations in the field by providing a good

and even 48 inches was necessary, so as to maintain the level at the bottom of the ditch where the surface was irregular. This was considered adequate for this particular plot, as only a very small part of it could be regarded as swampy. It had been farmed for more than half a century and averaged up very well with other farm land in the vicinity. But with tight yellow clay subsoil, it became pretty generally wet in a rainy season, which, of course, was a great hindrance to growing crops, resulting in the "freezing out" of clover and producing more or less "sourness" of the soil. More than half of it produced an average of less than half a ton of hay to the acre last year.

Too much cannot be said in favor of having an engineer, skilled in drainage operations, with proper instruments to determine levels and secure accuracy in the direction of the lines. Whatever one's practical ideas may be, he cannot measure up to the individual trained in this line of work. More than the cost of expert services will be saved in the length of drainage required and in the increased efficiency of the system when completed, to say nothing of the satisfaction in work well done and in accordance with engineering standards. On the 67 acres under consideration, only one permanent tree comes directly over a drain. This is important, and would be a very difficult result to achieve for one unaccustomed to such work.

The ditching was begun October 1 and completed December 15, 1912. Weather conditions were such as to greatly hinder the progress of the work at times. A horse-power ditcher was employed to do the major part of the cutting. Some portions were done entirely by hand, dynamite being used when rock was encountered and in all instances the final touch in preparing the bed for tile was done with "two-way" tile scoops, corresponding in size to the diameter of the tile.

Round tile were used and placed mostly by one man, who was followed by others who covered the tile with loose soil. The principal part of filling was done by a road machine, with four horses hitched to it. This proved to be a very satisfactory method. The wheel back of the cutter was allowed to run in the ditch. The ground filling in just ahead of the wheel was packed by it, which required very little filling by hand subsequently, because of settling.

Six horses, three abreast on either side, were first used, and gave us no end of trouble. Two or three pairs of heels were in the air a good share of the time, and delays were frequent. Afterwards, two teams, one ahead of the other, on either side did better. Six mules have since been purchased and are much superior to horses. They pay less attention to each other and, hitched three abreast on either side, walk right off with the machine. They are young and active and weigh about 1200 pounds each. By their use it is expected that cost of draining about 55



OPENING UP A DITCH WITH HORSE POWER DITCHER.



HORSE POWER TILE DITCHER—PLOW STYLE.

acres this season, on the opposite side of the highway, will be reduced.

All team work and labor was hired and an accurate account kept. The price of team work was \$3.50, and hand work \$1.50 per day of ten hours, the help furnishing their own feed and board. A good quality of tile was furnished by a local manufacturer at the county seat, four miles distant, at following prices: Four-inch at 1½¢ per foot; 6-inch at 3 cents; 8-inch at 5 cents, with 10 percent discount for cash. Hauling was done by wagon, about 3,000 making a good load. The following items were taken from books and are accurate: Tile, \$1,001.50; freight, \$36.30; hauling at \$1.30 per ton, or \$1.50 per ton from factory, \$314.52; labor and team work, \$884.91; dynamite, \$18; repairs on ditcher and other tools, making them good as new, \$40.00; engineer and helpers, \$175.20. Total, \$2,470.52; a cost of 68 and a fraction cents per rod. The tile factory is located five miles from the farm. The tile was loaded on cars without additional expense and was dropped down to siding at cost of \$5 per car; thus shortening the haul one and one-half miles. This accounts for freight item.

A contract was given to a neighbor to plow the entire plot at \$2.75 per acre. Plowing was done mostly in the winter with a sulky plow at a uniform depth of eight inches. This brought up considerable clay in places, as a good portion of it had never been plowed deeper than six inches before. In the spring the ground was thoroughly prepared with cut-a-way harrows, pulverizer and spring-tooth harrows. The last week in April over 1,000 peach trees were planted in a solid block, 20

between rainfall and possibility of cultivation are much reduced. Despite the fact that water stood in many places on this plot last year, greatly hindering the making of what hay there was, the land this year has become quite uniformly tillable, and potatoes were remarkably even over the entire field. When exceptions occurred, they were plainly due to clay being thrown up by deep plowing and where hummocks had been cut down to produce a more nearly even surface, and not to free water. In all instances the peach trees are located directly over the drains and have profited the most. Out of nearly 4,000 trees planted all are living and thrifty except 36, or less than one percent loss, and a maximum growth of 43 inches has been attained.

While there was considerable wagging among the older heads as to the advisability of putting in 11 miles and 94 rods of tile drain on this particular plot, and the prevailing sentiment seemed to be that "A fool and his money are soon parted," now that the peach trees are proudly waving their verdant plumes as evidence of benefits received, and the potatoes having withstood the drouth in a remarkable manner (the field being the only green one in this section) and by a careful estimate over one hundred bushels of potatoes per acre could be dug right now (August 30), a change of sentiment seems to have set in. One thing is certain: The man who paid the bills is content.

HARD WORKED SOIL.

The proverbial Irishman was one day found painting with such haste and recklessness that a passer-by inquired the reason for the rush.

"Hist," was the reply. "I must get done before my paint gives out!" The persistent sandpapering that is given some of our poorer soils from year to year reminds one of the same kind of economies.

On many clay soils the second crop of corn in succession does not pay the cost of labor involved; possibly very little has been added in the way of humus and fertility. Grass crops have been persistently shaved off and sold, sometimes at disastrous prices. Oats, wheat and corn are all cut low and the stubble put into the money grinding process. It is really a wonder that soil treated in this unnatural manner does not refuse altogether to produce a crop at all. It would seem that no man need attend an agricultural college, extension school or farmers' institute even, to appreciate the cause of such soil depletion.

Last year we had a field of clover located three miles from our home place. After having taken off the crop (which we purposely cut high) the late summer and fall growth of clover and fall grasses was allowed to remain on the ground. A man near this piece of land was anxious to turn his stock into the field to save what seemed like "waste" to him. In such cases shrewd farmers take in the situation and like to get a good deal of returns for an insignificant price. Had we placed no value on this growth of humus and fertilizer, a few dollars from him might have looked

like clear money. Most of the resulting manure would have been dropped in the shade of trees, along fences, and on his own land. Our field would have been denuded of natural winter cover, and packed by the tramping of his stock.

This season we raised corn on that field. There is no doubt in my mind that we secured the full value of our second-crop clover in the increased yield of corn, to say nothing of the good effects that still remain to be secured later. A farmer located on this clay soil would be accounted a fool to leave his timothy hay crop to rot on the ground; many a crop has been taken

off such soil at the cost of high-priced labor and subsequently sold for \$6 per ton. Had the owner plowed down this crop, saving his time of harvesting, there is little doubt of his getting the cost of the hay on the next corn crop to say nothing of later crops.

Like the Irishman, we have our eyes so fixed on the "paint can" that the real job gets little attention. A dollar's worth of ground and squeezed, shaved and sanded paper, measured to the value of 100 cents in sweat and long hours, is not profit, and if critically examined can not fairly be deemed income.—George P. Williams, Delaware Co., O.

Some Results from Wheat Variety Testing at the Delaware Station.

The results of testing a large number of varieties of wheat during the past six years at the Delaware Station show conclusively that the bearded varieties, as a class, are more dependable yielders than the smooth sorts. This does not mean that every bearded variety is a superior yielder, for a few have given low yields; yet, as a class, the bearded varieties have given better results than

The figures are based on the same number of plants for each variety and for each treatment.

Recently considerable interest has been aroused concerning the "Miracle" or "Stoner" wheat. The talking points of the promoters of this variety is that it fills freely and that about half the usual quantity of grain is needed for seeding. This variety has been care-

Six Years' Test 1908-1913.

Bearded Varieties.				Smooth Varieties.			
Variety Name	Color	Ave. chaff grain	per A bush	Variety Name	Color	Ave. chaff grain	per A bush
Auburn Red	R	R	31.5	Currell's Prolific	R	R	25.7
Farmers' Friend	W	R	31.0	Dawson's Golden Chaff	R	W	29.2
Gypsy	W	R	29.9	Early Ripe	R	R	28.8
Lebanon	R	R	30.2	Fultz	W	R	21.6
Lebanon	W	R	27.4	Gold Coin	R	W	23.5
Lehigh	W	R	30.0	Harvest King	R	R	25.7
Red Prolific	R	R	30.6	Perfection	R	R	27.6
Red Wonder	W	R	30.1	Pool	R	R	25.7
Rudy	W	R	30.0	Red Wave	R	R	21.6
Valley	W	R	27.4	Rochester Red	R	R	23.5

Acreage of bearded varieties... 29.8
Difference in favor of bearded varieties... 5.7 bu. per acre.

fully observed by the Delaware Station and the results given below show the "Miracle" tillers and yields in comparison with some old standard varieties.

Some tests were made with a number of varieties by planting the seed, 6x6 inches apart, in squares, 130 plants to a variety. These were grown on fertilized and unfertilized land the same season. By planting in this manner an opportunity was afforded for counting the number of tillers developing from each plant; likewise the exact number of plants per variety was known. The table below shows that certain of these varieties have yielded considerably more grain than others under no fertilization. It will be noted that the bearded varieties have given better yields under no fertilizer and have developed more tillers per plant.

A Comparison of Wheat Varieties, Fertilized and Unfertilized, as to Yield and Development of Tillers—Grown Season 1911

Variety Name	—Fertilizer—		—No Fertilizer—	
	Av. No. tillers	Yield in grams	Av. No. tillers	Yield in grams
Bearded				
Farmers' Friend	8.41	724	7.68	667
Lebanon	8.17	790	7.47	650
Red Wonder	8.13	695	6.90	580
Rudy	7.15	719	6.98	580
Valley	8.68	800	7.47	640
Average for bearded varieties	8.10	744	7.30	640
Smooth				
Red Wave	7.10	490	3.89	370
Fultz	6.43	432	5.48	310
Dawson's Golden Chaff	6.70	490	5.31	310
Gold Coin	6.69	512	4.19	310
Rochester Red	7.43	526	5.34	310
Average for smooth varieties	6.87	490	4.84	310



BUNDLES OF WHEAT FROM EQUAL AREAS BUT OF DIFFERENT VARIETIES GROWN SIDE BY SIDE.
No. 1, Leaps Prolific, 22 bu. per acre; No. 2, Gypsy, 26 bu. per a.; No. 3, Fultz Mediterranean, 15 bu. per a.

by 20 feet apart, and nearly 3,000 more were planted as fillers on the remaining portion of the plot 224 by 224 feet. Six rows of potatoes, three feet apart, were planted between the tree rows, leaving 24 feet between tree and potato rows.

Results to date (Aug. 30, 1913), have been most encouraging. Much washing was, no doubt, prevented by the drainage. Only a short time is required after a rainfall until water gushes out at each of the four outlets. Intervals

with the soil and climatic conditions. Our experience at the Delaware Station strongly indicates that the bearded varieties are more dependable on poor soil and where the weather is humid during the time the grain is developing. This does not mean that we do not occasionally get splendid yields of the smooth types of wheat, nor does it mean that the bearded wheats do better on a poor soil than on good soil. The type of wheat to choose is one that varies the least in yield during the subnormal season and on soils of different degrees of fertility.—Prof. A. E. Grantham, Delaware Experiment Station.

Our Farm Counselor

By R. P. Kester, Penna. Farm Advisor on Soils and Crops.

Beef Raising in the East.—There are four existing conditions that should make the raising of beef cattle a subject for consideration by a great many farmers in the Middle Atlantic States: First, the great amount of untilled and unutilized land in these states. Second, the natural adaptation of soil and climate to the growth of grass and forage crops. Third, the scarcity of farm labor necessary for conducting many branches of farming. Fourth, the high price of beef and the profitability of the business when conducted in the most improved manner.

Under present conditions and needs, we may safely state the following four propositions as fundamental to success in this business: First, a beef-producing breed of cattle must be kept. Second, the animals must be bred and raised on the farm. Third, the pasture lands must be so treated as to make them more productive and more permanent. Fourth, winter feeding and fattening must be done in the most economical, yet effective manner. We should be glad to receive letters from successful beef producers on these subjects, giving their experience and practice. It is our purpose to gather the best information from practical growers and the experiment stations and present them in this department. There is indeed a good opportunity in the East to make money in producing beef, provided the best methods are adopted.

Phosphoric Acid.—T. H. J. asks: "Is it safe and necessary to use phosphoric acid on the soil, and if so, what is the cheapest source?"

Farmers are learning the truth of what the experiment stations have been teaching for a number of years, that modern farm lands are more deficient in available phosphoric acid than in any other mineral element of plant food.

Fortunately, it is one of the cheapest of the commercial fertilizers. Many farmers are afraid of "acid phosphate," and look upon it as only a "stimulant."

Actually speaking, there is no such thing as a stimulant to plant growth. Any thing added to the soil that induces greater growth is a plant food, except those things which correct bad physical or chemical conditions. Phosphoric acid is a necessary element of plant food and is the same thing in whatever form it is found, varying only in availability.

Most authorities and farmers agree on the following statements: At present you can get more soluble phosphoric acid for a dollar in acid phosphate than any other form. Thomas slag, or phosphate powder, is one of the best and most effective carriers of phosphoric acid. It is also about one-third lime.

It is also about one-third lime. Bone, or bone meal is a good carrier. The phosphorus is more slowly available, and a little more costly. The raw phosphate rock, or floats is recommended by some authorities, but should always be used in connection

with manure or on soil containing a good supply of humus, as the decomposition of organic matter is necessary to make soluble the phosphoric acid in the floats. Floats has not been found the most economical material on eastern soils because of its slow action, and the distance to ship makes high freight charges.

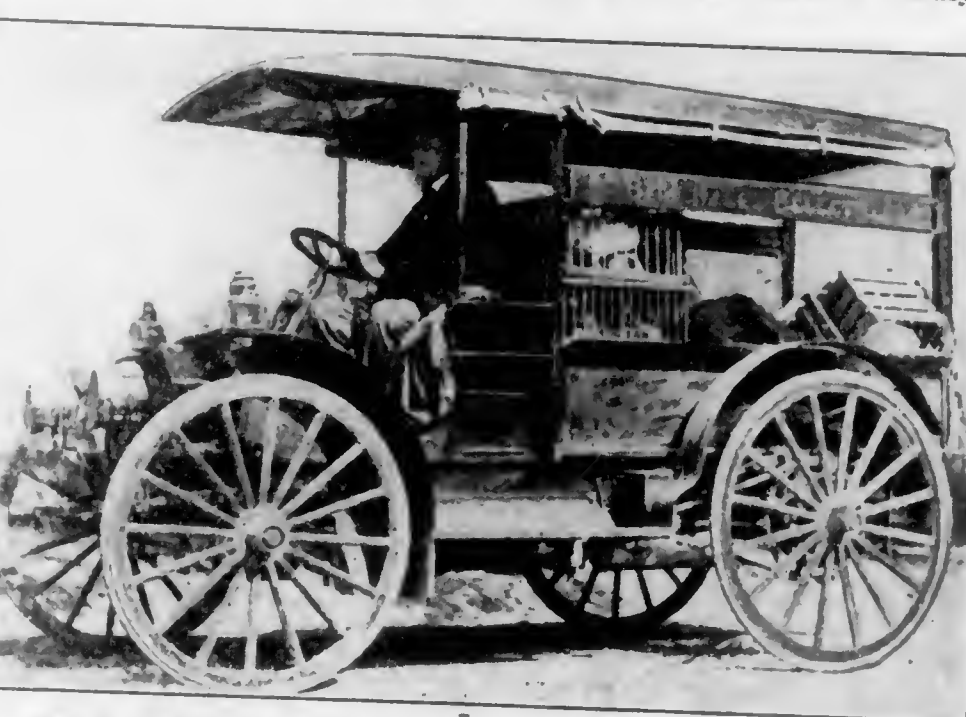
Acid phosphate may be used daily in the stables and on the manure pile. It holds the ammonia and deodorizes the stables. It has been found that 25 cents worth of acid phosphate added to one dollar's worth of manure increases the manurial value to two dollars.

A Memorial Highway.—Of all the improved-road talk we hear now-a-days, surely the most foolish is the agitation for a trans-continental highway from Philadelphia to San Francisco to be called the Lincoln Memorial Highway, and to be made of concrete. What is the need of such a road? Lincoln's chief desire was to do that which would benefit "all the people, all the time." What proportion of the people of the nation would be benefited by such a road? Lincoln's chief desire was to do that which would benefit "all the people, all the time." What proportion of the people of the nation would be benefited by such a road? We have scarcely

And it is work that counts in solving a road drainage problem, and work that counts in maintaining an earth road once it is drained. In Missouri, thousands of farmers, county officials, laborers, and even the governor swung in on the job for two days and worked to make their earth roadways more respectable all over the state. It has been estimated that road improvements to the value of \$500,000 were accomplished.

Of course nobody would agree that such roadmaking is skilled workmanship. Neither would anyone be foolish enough to imagine that such work would be of a permanent character, for everybody who travels our earth roadways realizes the necessity of constantly repairing and maintaining a road, keeping its side ditches open, its crown high and well packed, and its underground sluiceways cleaned out. But the point is that these people were so determined that their highway department use its organization to the fullest measure of usefulness that they inaugurated this two-day road making rally. It was a very emphatic popular demonstration of how clearly the farmer wants his country earth roads properly drained and fixed.

Here in our own State of Pennsylvania it is not necessary that a voluntary and spontaneous popular turnout of everybody on the roads be inaugurated. Our State Highway Department has the machinery whereby it could obtain the active co-operation of every township in the 7 counties of our Keystone State. The law permits Mr. Bigelow's department to issue letters or bulletins to the township road supervisors of their jobs. I notice that our Pennsylvania State Grange offers a \$100 reward for an up-to-date bulletin on the construction, repair and maintenance of township roads. The very fact that is made the subject of a standing joke thruout the state is clear-cut evidence of the lack of interest of our highway department in the subject of fixing up country earth roadways.



MR. B. M. NALE, A MIFFLIN COUNTY TRUCKER ON WAY TO MARKET.

recovered from the effects of the extravagant charity extended by Congress to induce the building of the trans-continental railways, and they are of national importance. Shall we spend untold millions needlessly?—Of all the iridescent dreams of imaginative people, let us hope that this one is the least likely to come true.

Barnyard Manure.—W. G. S. states that he has a quantity of manure which has been well preserved and wishes to know where he can apply it at this season, or later, to get greatest benefit.

In general farming, it can safely be stated that greater returns can be secured from manure when it is applied to soil that is full of living roots. It is not too late to spread on grass lands to produce hay next year. I would not put it on fields that are seeded entirely to clover unless I had no mixed or all-timothy fields of grass. Another place it may profitably be spread is on fall seeding, rye or wheat. In this instance, it is better left until ground is frozen. The practice of applying manure as a top-dressing to grain and grass is growing among our best farmers, and the results prove the wisdom of the practice.

OUR EARTH ROADS.

Not a \$50,000,000 Bond Proposition.

They have the right spirit out in Missouri in their road improvements. They do not have the money that we do here, but they are not afraid to work.

Suppose, for instance, that Mr. Bigelow's department were to survey, grade and then patrol with a King drag no more than one mile of earth roadway in each of our 67 counties for one year just as an object lesson to the surrounding township road supervisors living in each county, his department would be revealing some evidence of keeping the faith with the farmer. He has the legal power to patrol for one year 67 miles of Sprout roads—one mile in each county—to show the farmers how properly to drain, drag and maintain a country township road. But he has done nothing for these roads but talk about what he is going to do. We are tired of this sort of medicine.

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Horticulture

THE SAN JOSE SCALE PARASITE.

Great interest attaches to the announcement of the discovery of a parasite which will destroy San Jose scale, and which will thrive under local climatic conditions and multiply in sufficient numbers to make it an effective check on the scale pest. It has long been known that San Jose scale, although present in great numbers, has not been a serious pest in China, simply because parasitic insects keep the scale in check and destroy it before it develops in



PARASITE OF SAN JOSE SCALE.

sufficient numbers to do serious injury to trees and shrubs. This suggested the remedy in this country, and numerous efforts have been made to discover and acclimate a parasite which will flourish and perform the same service here.

At the summer meeting of the Pennsylvania Horticultural Society, September 10, Professor Surface, of the Division of Zoology, of the State Department of Agriculture, announced the discovery of parasites of several species that multiply in great numbers and destroy the San Jose scale. He announced, further, that he had succeeded in obtaining many specimens of these parasites and was able to disseminate them in a practical way. This announcement has created a "stir" quite natural in a matter of such wide economic importance. There has been a general demand for more information concerning the parasites and the evidences of their effectiveness in doing what is claimed for them.

The accompanying illustrations show two species of the parasites and a cluster of scale that have been perforated by the newly-discovered enemy. The study of these parasites began about four years ago, when perforated scales were found in orchards in Chester



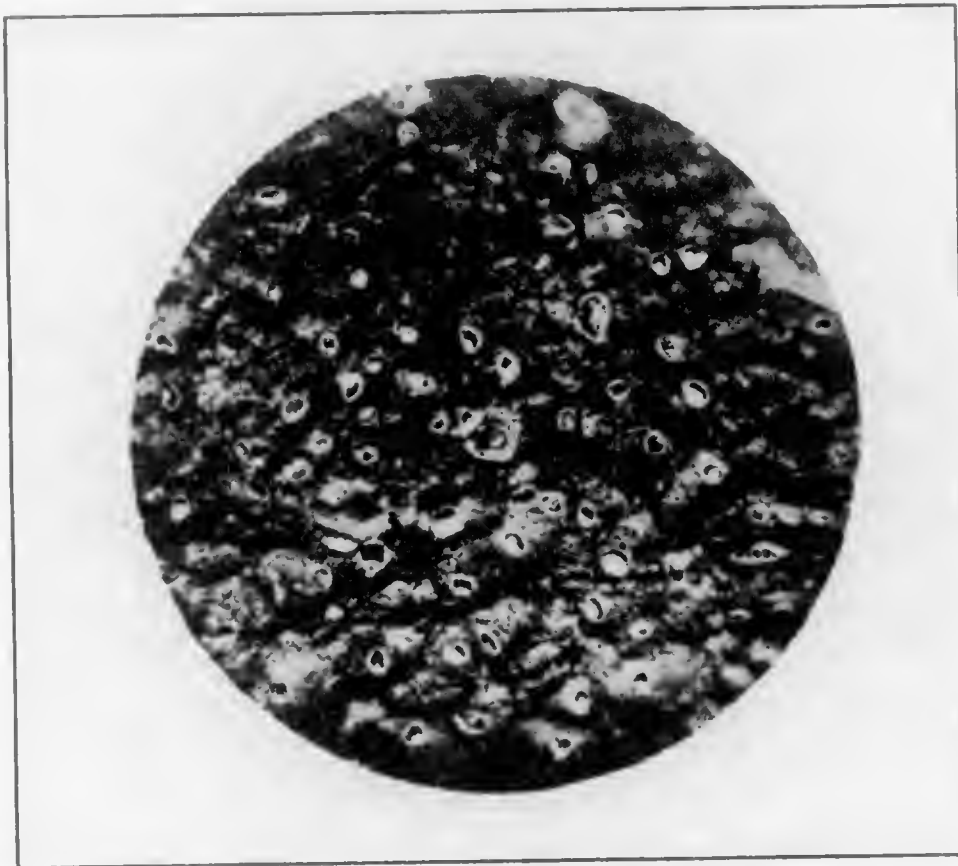
ANOTHER OF THE SCALE PARASITES.

County. Investigation seemed to prove that the insect responsible for this destruction of the scale was what is known as *Aphelinus fuscipennis*. Since then the study has been continued and the parasites have been bred in the insectary at the office of the State Zoologist. It is now claimed that four species have been bred and reared, including the one named above, and an-

other belonging to the genus *Anaspes* and the family *Proctotrupidae*. The two others are thought to be entirely new species.

The work and life history of the parasites have been worked out as follows: They destroy the San Jose scale by feeding in the soft bodies of the scale insects as larvae or maggots, and when they are grown change to chrysalids and experience a resting stage. Next they transform to adults or winged insects which are so small as barely to be seen by the unaided eye. After flying and mating, the winged female parasite deposits her eggs in the soft flesh of the scale. The egg hatches, the larva commences to feed and grow, and the life cycle is completed. Several broods or generations develop thus each year. It has been estimated that a single parasite insect may become the ancestor of over three million insects in a single season. These parasites are not known to have natural enemies, and none are apparently needed, as they will be held in check by the reduction of their natural food supply.

The spread of the parasite has been mapped out as follows: From Chester County they spread northward and westward. Adams County appears to be particularly free of living scale



SAN JOSE SCALE PERFORATED BY PARASITES.

which fact the State Zoologist attributes to the work of the insect. The westward spread has appeared to carry it to the vicinity of Lewistown, and northward it is thought to have reached a line mid-way between Sunbury and Williamsport. In this area it is claimed that the scale pest is rapidly decreasing, and many scales can be found perforated as shown in the accompanying illustration. It is not known how late the fall brood will continue active but preparations have been made to continue the dissemination of the parasite by mail and express during the late fall and as early in the spring as possible.

Every orchard man appreciates the horticultural value of this parasite if it continues to develop and will accomplish what is now claimed for it. Its progress will be watched with great interest during the next few seasons. Specimens can be obtained from the state department, and efforts are being made to promote its spread to all parts of the state and to other states. In the meantime, however, orchardists are advised to continue the use of lime-sulphur spray wherever scale is present. Watch the scale and the work of the new parasite. The value of the latter will be determined by its behavior in the next few years.

PEDIGREE TREES.

At a meeting of nurserymen two years ago, the question of the value of pedigree cions and stock for fruit trees was brought up by a prominent grower; the point was argued for some time, with the result that the fruit grower was regarded as a fanatic, and his theories were ridiculed as being entirely impractical. The point that the nurserymen tried to establish was that a bud is a bud and will make a strong tree regardless of its parentage; hence so long as it grows vigorously it will result in a tree that will produce fruit in proportion to the care which has been given the tree.

That this is absurd and contrary to the laws of nature has recently been shown in an orchard of a large apple and pear grower in Central New York. Facts which recently have been brought to light by closer investigation and more thorough study have proven without doubt that the practice of the nurserymen today is not only detrimental to the general welfare of the purchaser of the tree, but that it is a slipshod method designed only for the convenience of the nurserymen. It is true that this is not entirely the fault of the nurserymen, and that they are not wholly to

blame for adopting methods that while not being according to the best principles, are cheaper and easier to perform. The grower has stood by and accepted anything that the nurserymen have had to offer, and has not questioned the ways in which his stock has been grown. Not until the grower makes a firm stand and dictates to the nurserymen as to the stock that they will accept, will the nurserymen have to comply with these demands, and grow stock of prime value.

In the above-mentioned orchard in New York State, there were 15 rows of trees picked at the same time, and the amount of fruit taken from each row was carefully noted. This orchard was all planted at the same time, the trees were all bought from the same nursery, and each tree has received the same care as every other tree. According to the claims and theories of the nurserymen, then, the amounts of fruit taken from each row or each tree should show little variation. On the other hand, however, the variation was enormous. It might have been stated that none of the trees in question has ever suffered from any serious insect or fungous disease, enough to make an unhealthy condition of the tree. In one row each tree bore an average of three barrels of fruit. In the

row immediately adjoining, the average was under one barrel, and in third row each tree bore an average of over three barrels, and so on all thru the orchard the variation was about as great as could possibly be planned if an attempt had been made in that direction. Every fruit grower knows that this is not an unusual occurrence in an orchard; in fact, he knows that it is the rule and the contrary is the exception. Is this condition to be wondered at? A little thought will reveal the fact that the contrary would be a condition to be wondered at. In other words, as long as a tree is propagated from unknown parentage, just so long will the primary and fundamental rule of nature, variation, be met with, where the tree is grown regardless of conditions or culture methods.

The nurserymen buys or grows his seedlings, and these come from seeds that in all probability were gotten from pomace in the cider mill or the canning factory. These seedlings are planted, and as soon as they reach a workable age they are budded or grafted with buds or cions that are taken from the prunings of the nursery rows from trees that are only one or two years old. Let us apply this same method of propagation to the live stock breeder. Every year there are horses or bulls that are sold for thousands of dollars each, not because they are strong, or beautiful, but because their progeny is known. They have character and possess the characteristics that are wanted, and have the power of reproducing those characteristics. Would these large amounts be paid for a bull that was from unknown parentage on the chance that it might breed true to type?

A bud is a miniature plant and possesses all the characteristics of the plant that bore it. If its parent tree was a heavy bearer, the bud will possess that tendency, and on the other hand if the tree was merely a plant producing wood the bud will have a like tendency. In every part of the country we can see the shade which they furnish, and the wood which they produce. Most of them have not borne marketable fruit in 20 years. Does the man who is about to plant an orchard want to build his hopes on this sort of foundation? Does he want to invest in an enterprise that involves a lifetime when the basis of that investment is chance and uncertainty? And yet this is what is being done every day, and the grower wonders why some of his trees are heavy bearers and others wood plants.

Such methods were all right for orcharding of a few years ago when a fair crop would mean financial profit. In these days with competition growing keener every day, the only way of making the orchard a highly profitable investment is to reduce the business to a science, and eliminate all wastes, and also to establish such management that the operating expenses may be reduced to the lowest possible point. This means starting right and on a basis that will give the orchard every chance to show its worth.

When the growers will stand together and demand that their trees be grown from buds of known parentage, then will we see uniform orchards and annual bearing years, providing other things are equal. Until that time the nurseryman will continue to follow the cheap and easiest way, that is, to bud anything that is a bud, so long as it grows and makes a straight and good looking tree that will sell up to the standard of caliper and height. Six or seven years later the grower pays for this practice and has no redress and means of repair except to replant the orchard or top work it.—L. Wayne Army, Cornell University.

VEGETABLE GROWERS' CONVENTION.

The sixth annual meeting of the Vegetable Growers' Association of America was held at Toledo, O., October 1-3. The attendance was fully up to former years. In the forenoon of the first day the members were welcomed by Mayor Brand Whitlock and George Rogers, president of the Toledo Fruit and Vegetable Growers' Association.

In his annual address, President H. F. Hall urged centralization of effort. He thinks the association should decide upon one or two definite lines of action and devote all its energies to that work. He suggested a campaign for larger membership and the encouragement of co-operative selling agencies, improved transportation facilities, uniform laws governing weights and measures, the organization of state growers' associations and co-operation with the experiment stations and the United States Department of Agriculture.

Professor A. D. Selby spoke on "Plant Diseases," reviewing the growth of soil sterilization practice and its effect in reducing plant diseases.

Dr. W. A. Orton of the Department of Agriculture, at Washington, D. C., discussed the control of plant diseases, bringing out the value of propagating disease resistant varieties, and advocating spraying to keep down disease.

The value of birds in keeping insects under control was touched upon by Professor Forbush. "Insect Life" was Professor Gossard's topic. He advocated a judicious use of insecticides and the encouragement of the natural enemies of insects, and the sending of any insects whose identity is uncertain to the experiment station for identification.

A round table on the subject "Co-operation" was held Thursday afternoon. C. N. Ward called attention to the change of attitude amongst gardeners as a class relative to co-operation. Communications from several organizations relating to methods of co-operation used by them and the results accomplished, were read; these papers indicating the necessity of some well-defined object or plan.

Among the things brought out as possible objects for co-operative organizations were sociability, educational purposes, legislative matters, methods for better approach to city officials on certain questions, leasing, rental or purchase of market places or stalls, purchasing of supplies, selling of produce, co-operation with United States Department of Agriculture and the State experiment stations, advertising of produce, and the opposing of anything which may be detrimental to growers and the encouragement of anything which will benefit the growers as a class.

Professor Paul Work of Cornell University, speaking on "Local and State Organizations," said that the value of the vegetable products in 1910 was \$417,000,000, while that of all other horticultural products was \$1 million dollars and of tree fruits, \$140,000,000. Professor Work said that this industry was not going to decrease, and urged the support of members in securing help for growers from the experiment stations.

Thursday was given over to visiting Toledo's famous greenhouse establishments and in the evening the annual banquet was held.

Friday morning Dr. Coffey of the Ohio Experiment Station talked on "Soils." He urged the selection of varieties and strains of vegetables suitable to individual soils.

Mr. Thompson of the United States Department of Agriculture addressed the meeting on "Muck Soils for the

Greenhouse," and gave some figures on the splendid results secured from muck soils in the department experiments, showing the value of adding muck to greenhouse soils to increase yields.

The election of officers resulted as follows: W. J. Ritterskamp, of Princeton, president; H. F. Thompson, of Massachusetts, vice president; Sam W. Severance, of Louisville, Ky., secretary, and M. L. Ruetenik, of Cleveland, O., treasurer.

A SIMPLE AND SAFE STYLE OF "PITTING."

Near almost every considerable city thruout the East are a great many farmers who grow some of the staple winter consumption vegetables on a field crop scale, and generally have a larger yield of these crops than they have cellar room to store them in. This condition compels them either to sell heavily in the fall, when prices are the lowest, generally, or to resort to some form of outside storage. Now there are many different ways of storing outside more or less practiced, but unfortunately not all of them invariably give satisfactory results, that is, are efficient. Doubtless much depends on the thoroughness with which the task is done, yet after some experimenting I am satisfied that there are some of the generally accepted styles of "pits" that are not as good as some others, equally simple and adapted to use anywhere.

One year, decades ago, while I was yet a lad at home my father was critically ill thruout the autumn and an old Irish farm hand took charge of harvesting and housing the crops. That year we had a surprisingly large yield of potatoes, many bushels more than our cellar would accommodate, and this old, unread Irishman put them into storage in the field despite the misgivings of the "women folks." But the potatoes came thru all right, not a single bushel being lost. Since then I have read of a great many varying forms or "pits" but have never seen this one described; and tho I have tried several of these other forms for root crop storage I have not found any of them to give as uniformly good results. I will tell you how he did the "pitting." "Me and the bye did it," he always said.

First he cleared a patch of the ground of all the vines or other similar matter and then piled up the potatoes in a cone, always emptying the baskets on the top center of the pile and letting the tubers find their own level, thus making an almost perfect cone. Next he placed rye straw, butts to the ground, on the cone until it was completely covered. Then a trench was dug all around the heap, the earth being put on top of the straw completely covering it, except at the top of the cone where he left a small part without earth for ventilation thru the tops of the straw where they met together. Now he placed more straw on top of this layer of earth and put straw ropes on to hold it in place. On the apex of the cone he set a straw cap, made by putting a band on a bundle of straw near the butts. This cap was bound on with a straw rope. To make straw ropes a wisp of straw was doubled around the end of a hand rake; "the bye" turning the rake and his teacher spinning the rope. When the rope had become of the desired length, the loop was taken off the rake and pegged to the ground and the rope was passed around and over the cone. This completed the process.

In the years since, while using this form of storage, I have found that in the absence of rye straw, long oat or wheat straw will do nearly as well.

The difference being that one must put the latter on a little thicker and lap

butts on tops about half the straw's length. I have found fifty bushels of roots to make the most satisfactory size cone to work out; and besides when the pit is opened in winter this amount can be removed by one man before any are frosted—assuming that one takes advantage of a winter day of normal temperature.—Clark Westford, Schenectady Co., N. Y.

PENN STATE FRUIT SHOW.

The "Crab Apple Club" of the Pennsylvania State College, will hold its fourth annual fruit show Pennsylvania Day, November 7, 1913, at State College, Pa. In order to make this show a success every fruit grower in Pennsylvania is asked to make an exhibit of any kind of apples, pears, quinces or nuts, in plate, box or barrel entry—each entry constituting one variety. Fruit coming from village lot owners will be as gladly received as from commercial growers.

The club will pay all express charges, using the fruit later for class room work. Barrel and box entries will be returned at owner's expense, or will be sold at the best price possible and proceeds returned, if so desired.

Ribbons will be awarded in each entry, a first, second and third. Last year there were 550 plates made up of 88 varieties exhibited. This year the club hopes to exceed both of these figures with the support of the growers. Those who desire to make exhibits should indicate such desire on postal card, when they will be furnished with entry blanks and further instructions. The committee in charge includes H. K. Plank, chairman; R. E. Hartman, W. E. Gillespie, H. G. Ingerson. Professor F. N. Fagan.

Spray Formulas.—The Tennessee State Board of Agriculture in its Bulletin No. 10, issued from Knoxville, Tenn., takes up preparation and use of spray formulas, giving compositions, and indicating insects and diseases to which they are especially applicable.

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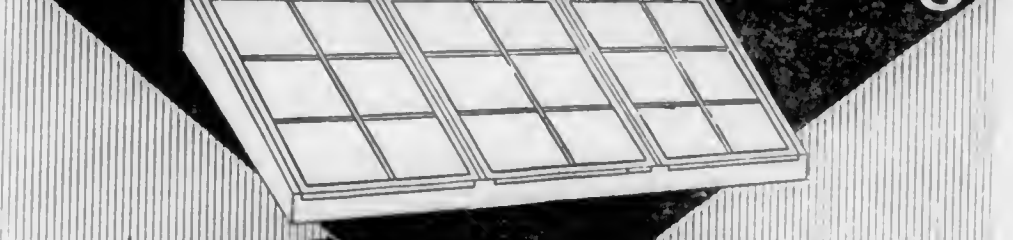
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The Dairy

WITH THE FALL-FRESHENING COWS.

Today a cold misty rain is falling. It is October for a fact. It has been a long, dry, hot summer. The pastures have not been abundant at any time, and in the later weeks they were brown, turf-gnawed barrens, and the usual after feed is unknown. The soiling crops were very poor—they always are when wanted most—and the chief reliance for feed has been the return to the old farm equalizer, a can of milk and a purchased bag of cow feed. Cows dried off very early. The old question, "How long should a cow go dry," was not discussed, for she went dry six weeks too soon. These cows were turned away to the pastures to shift for themselves, for the old doctrine, "A cow on vacation should be fed little so as to clean up her system," is not wholly extinct in the cow country. It is this very cow that is to be made the subject of this plea at this time.

Why should the cow at this particular period be left to shift for herself? It is the very time when she wants a well-considered ration, suitable for her and her coming needs. In what way is her system toned up and the demands—very peculiar now—met by restricted and badly constructed nutriment? She has just closed up a ten months' contribution to the dairy supplies of the country. A part of this time, she has, in nature's way, paid tribute to the coming event that will again place her in the dairy. Can she, by restricted feeding, meet these demands so as to again place her on the high plain of production? Can even good pasture grass supply that need and how about a sun-scorched, drouthy pasture where a full feeding is out of the question?

This cow has devoted her strength and energy to milk giving, little different from any demand upon nerve force. She must have a ration sufficient in amount and character to not only support her, but create increased vigor, weight and strongly marked thrift. She must, when she freshens, come into the dairy with robust powers of production, without, as is so often the case, providing for it from her own bodily possessions. Where the latter is the case, ideal strength and stamina are wanting.

During this "vacation" is a good time to avoid the starchy foods beyond the amounts found in the silage and hay. It is protein that is wanted now to build up red meat, make abundant blood and nerve substance. Here it is that bran, oil meal, clover and the like, rich in proteins and mineral matter, play conspicuous parts. Out meal comes in here in a commendable way. It is a rich food, cooling in its nature and acts admirably before freshening, and may be made the principal part of the grain ration for a short time. No better laxative can be found now than silage or roots, fed singly or together. Of course any man of reflective judgment will not overfeed a cow at this period, and a discerning eye can tell when a cow is "picking up," on the gain feeds and cleans up the manger with a wistful eye still towards the feeder. These are the three best "pointers" to good intelligent feeding of the cow soon to freshen.

I am wholly against separating a cow from the herd very long before she calves. Have the "box" stall an open pen in the stable, where the balance of the herd is stabled. A cow alone and away from home soon becomes a homesick cow, and a drawn condition of the nerves may result badly later on. Have the stall dry and well bedded and feed her rations with regularity, especially

the watering. If present at the time of delivery, slight assistance will be of especial value in saving the strength of the cow. There may be something akin to "moon-signs" in this, but for years we have made a practice of milking out part of the contents of her udder an hour or so after calving and giving it to her for a "tonic." She will drink it greedily.

When I can I always take a calf away before it has sucked its dam. After a few hours, a couple of quarts of warm milk is drawn and given to the calf. Put its nose down into the warm milk and the secret of drinking is solved instantly. Have the milk in a very shallow dish so that drinking is a slow process, and good health is sure to follow. Where oats have formed the large part of the grain ration before calving, I have never known troublesome conditions to follow.

If all goes well, the cow is put back into her stall within 24 hours. Lighter rations follow for a few days, possibly two weeks, and when the system of the cow again becomes normal, the rations are gradually increased until a fall flow is established. Sometimes before a cow freshens the udder seems to slightly



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harden. This is rather frequent in the young heifers. Our remedy is a thorough saturation of the udder with the best grade machine oil, possibly two applications. The remedy has always fitted the disease.—Chas. Mathew Morgan.

ORGANIZATION FOR MILK PRODUCERS.

New York and the four other states supplying milk for the city of New York have had a lot of experience in the matter of securing a profit-making price for the milk sold. Eight or ten years ago an organization was effected which had for its object the union of all dairymen supplying milk for the New York market. This was known as the Five States' Milk Producers' Association. It was supported with considerable enthusiasm for a time, but seemed to be badly managed at the last. At any rate, the association ceased to act or to call meetings. Considerable money was collected, and for all I know it was properly expended. Some think otherwise, but that is all over now. The question whether the association did good or harm is sometimes discussed, perhaps not so wisely as it might be. I have always thought that the formation of the organization and the discussion that was provoked by it helped to inform both producers and the consumers of milk. In that sense it did good.

Not long after the failure of the Five States' organization, another was

brought into being. It aimed to cover the same territory as the former association. It tried to avoid some of the faults of the former and to include some good features not contained in the other. It is still active. It has continued along for some time, apparently not doing much, and in that way has lost the friendship of some of its members. Whether the management is to be censured for keeping rather quiet is a question. The way has not been clear. New territory has been canvassed and possibly the old territory has been neglected. If I were to offer any criticism I would say that reports of progress ought to have been given out to the membership, and information as to the expenditure of money, etc., been made public. I hear no question of sincerity or complaint of unfair expenditure of the funds of the association, but some are criticising it for not telling what is being done and what it wishes to do. It would seem that more reports might have been given to advantage.

Be that as it may, it has recently made a fresh start. At the first it was proposed to secure the membership of enough farmers to claim the control of 200,000 of the supposed 250,000 cows

For my part I am inclined to favor the scheme more than I have in the past. It seems to me to have one important fault, at least in some localities. I am told that in many places where local branches have been formed the farmers have constructed creameries or stations where they may make butter or cheese whenever that seems to be desired. In my own locality and in others, there are no such places for handling the milk. Where there are none the farmers are taking long chances in signing contracts with the league to sell their milk, since the league is not bound to take the milk, and acts only as a selling agency. They sell if they can. If they cannot sell, the milk is on the hands of the farmer. He should have some way to handle his milk in case the league is not in shape to take care of it at any given time.

This is particularly true at the first. There is a fine attached to the league contract in case the farmer does not fulfill his part of it. He may work up the milk at home or at his co-operative creamery as he chooses, but when the requisite number of signatures are secured and the league notifies the farmers that they are to sell thru the league, then he may not sell to any of the dealers individually as he has in the past. I would hardly care to sign this contract until I had some way either by creamery or otherwise to dispose of the milk. The successful operation of the plans of the league are, I believe, dependent upon the co-operative creamery proposition.

There has been considerable discussion as to whether a man should sign a Borden or a Sheffield contract after he has signed a contract with the league. If he does so sign, he has two contracts to fill which are in direct opposition to each other. The answer given by the league people is that they advise not signing with the other buyers. This brings up the question as to whether the Borden people will take the milk without a contract. I have this to say, that they have offered to do so in cases where enough patrons were affected to make a difference with their business. If the farmers at a certain station were to agree to stand together they could sell milk to the Borden without a contract if the milk cannot be had otherwise. The whole question with the farmers is simply a matter of standing by each other. As a rule they do not do it. If they follow that rule they may as well give up first as last. It depends upon their loyalty. Better give the matter into the hands of a good committee to deal with as they find it best.

There is now said to be a few thousand dollars of the money collected by the league left on hand, unexpended. The money collected has been used for the purpose of gaining additional members. The secretary has \$600 a year and the treasurer \$100. No other salaries are paid, except to canvassers and speakers who are at work getting members to the league and securing signa-

tures to the new contracts. The president and others have their expenses paid when on business of the league. It is thought that the money now on hand will last to complete the present canvass, supplemented by such additions as may be made from the new members secured while canvassing for signatures to the contracts.

The league does not aspire to a monopoly, and will not care to get all milk producers in its membership. If it can get enough members to allow it to have a say with the dealers in the matter of price, the present ideas of the situation will be satisfied. The league will make a charge, according to the present plans, of one cent a hundred pounds for selling the milk. If it can once get started on this basis it will have money enough to carry on its plans easily; in fact, it will have too much money if it sells the milk of 150,000 cows at the rate of one cent per hundred. The commission can be reduced, or course, whenever there is occasion for doing so. It is a farmers' affair, and the farmers can make such changes as they may desire at any time.

No plan can be beyond criticism, and the plan of the league is no exception. For my part I am inclined to favor the scheme more than I have in the past. It seems to me to have one important fault, at least in some localities. I am told that in many places where local branches have been formed the farmers have constructed creameries or stations where they may make butter or cheese whenever that seems to be desired. In my own locality and in others, there are no such places for handling the milk. Where there are none the farmers are taking long chances in signing contracts with the league to sell their milk, since the league is not bound to take the milk, and acts only as a selling agency. They sell if they can. If they cannot sell, the milk is on the hands of the farmer. He should have some way to handle his milk in case the league is not in shape to take care of it at any given time.

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If after a league contract is signed, the farmer finds that he must sign at the Borden, he will have to withdraw from the league or take the chances of violating his contract with it. If the milk should be called for by the league he can refuse to answer the call and pay a fine of \$5 to the league or refuse to fulfill his contract with the Borden. He does not like to violate a contract, altho it is claimed that a Borden contract is so one-sided that it cannot be enforced. I do not know how that may be, but I am sure that I would not care to be under obligation to two buyers. That the league will not be in position to do any business this winter may be true, but the principle of signing two contracts is wrong, and farmers have a reputation of being law-abiding, a reputation that they do not care to forfeit.

It seems to me that the proper thing to do is to provide a place for the milk in a co-operative creamery, and then contract with the league and do as they like otherwise. If there is such a condition, the Borden will be likely to take the milk as long as they can get it, and there will be no violation of contract rights.—H. H. Lyon, Chenango Co., N. Y.

THE BUTTER FAILS TO COME.

Will some one please inform us as to the reason we can not get butter from our churnings? The two cows from which we are making butter came fresh in the latter part of May and were on pasture until six weeks ago, and since that time have been fed liberally. They were salted regularly but since being confined I neglected salting them very much for a month. Then we began to find it difficult to obtain the butter; but for the past 16 days they had all the salt they will use. Nevertheless, churning conditions are growing worse each time. Is it because they were not salted, or are there other causes? We set our milk in pans and it does not stand longer than three days, nor does the cream. We thought conditions ought to begin to improve by this time if it is only caused by neglect in salting them.—W. K.

We do not believe that neglecting to salt the cows regularly for a month would have any effect upon the curability of the cream. There are various reasons why the butter might not come, and no one can tell just exactly the reason without experimenting a little. When cows get pretty well along in the period of lactation the churning does not come as readily as when they are fresh. Your cows are getting along well in the period of lactation, and this may be the fault. Then again, the butter does not come as well in cold weather as it does in warm weather unless you take extra pains in warming the cream. You should never churn until the cream is at a proper temperature, neither winter or summer. In the summer time you should cool the cream to the desired temperature and in the winter you should warm it. Temperature has more to do with your failure to get butter than any one cause. Ordinarily, the cream ought to be at about 60 degrees to have the butter come readily.

Again, the cream does not ripen or sour as readily in cold weather as it does in warm weather. Well ripened cream churns more readily than sweet cream, and in the summer time your cream will probably ripen to a greater degree of acidity than it does in cold weather, consequently it will not churn as readily now. After you skim your milk and get the cream, you should set the cream where it is warm so that it will ripen; and, in making ripened cream butter, this cream ought to be warmed up to about 70 degrees and set in that temperature for about 12 hours:

then it should be cooled down to 60 degrees and churned.

Now, if you will do these things, you will probably have little trouble in getting your butter to come but if your butter does not come, it is because of the fact that your cows are getting well along in the period of lactation. Then it is a good thing to pasteurize the cream or the milk when it is set. The average housewife calls it scalding the milk. Set your milk on the stove and keep it there until it gets real hot, then set it away in crocks and when the cream comes it will churn more readily than where you do not pasteurize or scald it. If you try one after the other of these remedies, you will find the cure of your trouble. Your cows should have a grain ration.—J. L.

THE MILK QUESTION.

With the price of cow feed advanced fully 25 percent over the same period last year, and cows increasing in price, considerable dissatisfaction has been expressed with the milk prices as announced for the ensuing six months. The prices remain the same as last year. Dairymen say these prices will have to be increased, or many will have to go out of the business. Yet the milk market is reported as being short. The freaky weather that has been so much in evidence this summer has prevailed right up to the present time, and has caused wide fluctuations in the demand for milk and cream. Had the weather been normal, the market would have been bare of supplies. As it was, one day might show a shortage, and the next a slight surplus would be in sight, only to be wiped out by the first hot day.

This continual see-saw has made it very difficult for the dealer to do any business. However, taken as a whole, the market is short, and the situation promises to become serious as the output is shrinking quite rapidly. The public is preparing itself for an increase in price next winter (note that the producer is expected to sell at the same old price) by this apparent approaching shortage. The railroads, too, will get but their regular rates, hence the greater profit must go to the middleman and retailer. Therefore, it is contended that neither producer nor ultimate consumer gets a square deal.

A few years ago, when trusts were just becoming popular, attempts were made to consolidate the milk industry in several large cities. They did not succeed, yet the proposition possessed more merit than many of the consolidation plans that were put over. Consumers are paying for the time spent by retail dealers in driving about the city. Some day a practical man will organize the milk dealers, assign them to districts, making as much money for them, and give the consumer lower prices. The reverse will also hold true, and when such shall be achieved, we may look for good prices for our milk, which too often we have been obliged to sell at "starvation" prices.—D. T. Hendrickson, Monmouth Co., N. J.

The Care of New-Born Foals.—Under the above heading the Wisconsin Station has issued its Circular of Information No. 13, which will have interest more particularly for the farmer who is interested in horse breeding. It is forwarded from Madison, Wis.

The Stable Fly.—The above is the subject of Farmers' Bulletin No. 540, dealing with this pest as to life history, ravages, dangers and methods of combatting. Bulletin is procurable on application to the Department of Agriculture, at Washington, D. C.

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Choose your own method if you prefer, but here is a test that's very conclusive: Select any one cow and record her daily milk yield for one week, on her present ration. Change her over to Larro-feed gradually, allowing her a week for readjustment, then start weighing her milk daily again for one week. Compare your figures. Remember—money back if not satisfied.

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Philadelphia, Pa., October 18, 1913.

The advocates of the road

bond amendment are evi-

dently becoming worried

over the outcome of their

campaign. There are continued rumors

that State Highway Commissioner Bige-

low is to be retired. It is inferred that

opposition to the past conduct of, and

present conditions in, the Highway De-

partment threaten the success of the

issue. After a recent conference at

Harrisburg, between Senator Penrose,

Chief Engineer Foster and Governor

Tener, it was announced that the gov-

ernor would take personal charge of the

department, reorganize its forces, in-

stall a publicity agent and stem the

tide against the road loan. This sud-

den activity is evidently due, in large

measure, to the opposition which Sena-

tor Penrose and others have encoun-

tered in their tour of the county fairs

and in farming communities. There is

no doubt of the opposition, and it ap-

pears to be growing daily. We believe

that the senator is reading the senti-

ments of the farmers correctly in fore-

seeing the defeat of the measure, but

he is mistaken in assuming that the re-

tirement of the commissioner and the

hasty reorganization of the department

will change the sentiment on the road

merits of the issue. The fact that the

department is not properly prepared

in organization or equipment to insure

economical expenditure of so large a

sum of money is but one objection to

the bond amendment. But were it the

only one, the retirement of Mr. Bige-

low and the hasty reorganization of the

department at this time would in no way

insure improvement. There is no reason

why the voter should have greater con-

fidence in new appointees with nothing

but promises to recommend them, than

they have in the old officials. And such

a move will in no way influence the

facts that the bonding system is too

expensive, that it is unjust in deferring

payment beyond the possible life of the

original roads, that the plan contem-

plates an excessive expenditure of

money on too small a proportion of the

total road mileage of the state, and

that it is the entering wedge in ex-

travagant road building which to suc-

ceed will require tremendous annual ap-

propriations to protect what has already

been invested. Opposition on these

grounds is not opposition to road im-

provement as is frequently charged. All

farmers favor road improvement, even at heavy costs, but they want such im-

provement equitably distributed over

the state and judiciously financed.

Their opposition to the bond issue is

on the same grounds as that of the

Pittsburg Chamber of Commerce when

that body recently passed a resolution

of protest against the proposed amend-

ment by a vote of 58 to 9. It protested

against the measure because "the \$5,000

miles of roads proposed would cost not

\$50,000,000, but \$170,000,000;" also

that the example in New York State in-

dicates that under the bonding system

we may expect to get "50 percent of

roads for 100 percent of money."

On page 4 of this issue we

present illustration of the

Parasite. San Jose parasite which has

been the subject of much

newspaper discussion during the past

few weeks. The article accompanying

gives a brief description of its habits

and the history of the observation of

its work in this state. It is a generally

accepted axiom among scientists that

definite conclusions in experimental

work cannot be drawn from the evi-

dence of a single year, or from a brief

period of years. This applies as well in

the observations of the behavior of in-

sects as in other lines of experimenta-

tions. It will be noted that this scale

parasite has been under observation in

this state for only about four years,

and, presumably, in limited numbers

for a portion of that time. It has yet

to demonstrate its economic worth. If

it will prove an effective check to San

Jose scale, even in limited areas, it is

deserving of the most careful nursing,

and if it will perform the same service

over the country it will be the most im-

portant discovery in recent years. It

is now being distributed to new terri-

tory, and continued observation of its

behavior and habits under varying

conditions should soon establish its real

value. Unfortunately, controversy as

to credit for the discovery of this in-

sect threatens to excite prejudice

against it. The question as to its dis-

covery is comparatively a small matter,

so far as the horticulturists are con-

cerned. They are interested primarily

in knowing what it will do, and in its

general dissemination, if it proves to be

as valuable as is now hoped.

The high prices of meat of all

classes are the cause of much

discussion at present. The

city papers are devoting much

space to the fact that city prices have

reached an alarming height, and are

going higher; also to the constantly

decreasing supply and the probable

possible means of meeting the demands.

It is commonly agreed that high prices

of meats are here to stay, and that

under the existing conditions in this

country or those which are likely to de-

velop in the future, there can be no

return to the prices of even a few

years ago. The opening of our mar-

kets to free beef from South American

countries is expected to have some ef-

fect upon wholesale prices but it can-

not be expected that retail prices will

be greatly reduced. Even with free

beef, live steers, sheep and hogs should

hold close to the price ranges of the

past few years because of the rapid

decrease in supplies and the increased

demand. The situation is of particular

interest to the farmers of the Eastern

States, as any considerable increase in

production must come from this section.

The ranges of the West are gone, and

even with higher prices to encourage

production, it will be practically im-

possible for the West to maintain its

cattle-feeding industry. Lands that

were once used for cattle grazing alone

are broken up and devoted to other

crops. Land values have increased and

local demands for other products have

made it necessary for the former cattle

raisers to follow a more diversified

character of farming. In the East

there are vast areas that are unfitted

for general farming and have been ne-

glected because of the small profit in

stock raising under prices prevailing a

few years ago. The present price in-

crease should mean the opening of this

land to grazing of both cattle and

sheep. The problems of the eastern

live stock man in the next few years

will be the improvement of neglected

pastures, the adaptation of grasses to

the rough hillside areas and the de-

velopment of small, but profitable

herds. There will be good returns for

those who best solve these problems

and are earliest in the market with

their product.

The state fire marshal has

issued a number of circulars

recently giving suggestions in

guarding against fire losses.

Most of these apply particularly to

farm fire losses, and nowhere should

such instruction be given greater at-

tention. The Department of Agriculture,

in a recent publication, gives some in-

teresting figures compiled from the re-

turns of 14 insurance companies in

Massachusetts on causes of and losses

from fires on farms. These figures show

a total of 1,428 such fires in a period

of five years, a greater proportion of

which were due to causes which could

have been prevented by trifling altera-

tion or just ordinary precautions. For

example, six cases of fire from ashes

kept in wooden receptacles caused a

loss of \$2,365.10; 13 fires from brush

and bonfires caused a loss of \$4,410.60;

children and matches caused 24 fires

for a loss of \$4,870.56; defective chim-

neys caused 273 fires and a loss of \$76,

742.45; carelessness with kerosene

stoves, lamps and lanterns resulted a

loss of \$21,655.31. Rats

and matches caused a loss of \$106.51

and carelessness in smoking resulted in

14 fires for a loss of \$2,329.72. The

causes which might be classed as easily

preventable resulted in 470 fires, for a

total loss of \$117,521.39, as com-

pared with 958 not readily avoidable

which caused a loss of \$274,564.40. On

this basis about one-third of the fire

loss on farms might be classed as pre-

ventable, or as resulting from careles-

ness and neglect. It is poor manage-

ment to pay fire insurance and be care-

less in fire precaution.

Governor Tener is to

give publicity to the

State Highway Depart-

ment in an effort to save

the \$50,000,000 road bond amendment.

The public will greatly appreciate such

belated publicity, but it already ap-

pears that the governor is to have some

difficulty in securing the required data.

Under date of October 12, a Harrisburg

dispatch to the Public Ledger says:

"The Highway Department has com-

pleted a report of its work from June 1,

1911, when E. M. Bigelow became

highway commissioner, to June 1, 1913.

This report shows that the average con-

tract price of state roads built was

Household

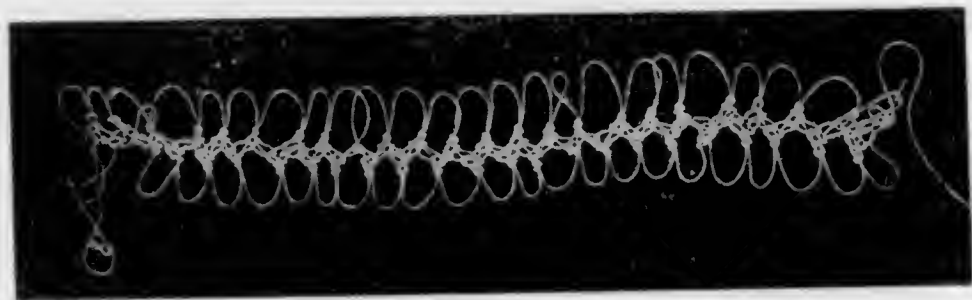
PILLOWS AND BED FURNISHINGS.

Three Dainty Pillow Slips.

A new way of doing old things is eagerly sought by the up-to-date housewife. The same old duties grow monotonous, and the never-ending making of pillow slips and towels in the identical way we have made them for years becomes a mere humdrum task which is gotten out of the way by the machine route as rapidly as possible.

Recently I have seen something new in this line. Some pillow slips made for birthday presents, three different styles of them were the inspiration of this article, for no sooner do I get a new idea which I think will be useful to our farmer housewives than I am anxious to pass it along so that all may share it.

These pillow slips represented, possibly too much work to make them practicable for every day use, certainly one pair which were heavily embroidered would be open to this objection, but we also love to have something dainty laid away for very best use for those special occasions which come to us when we have with us guests whom we delight to honor with our choicest possessions.



HAIR PIN INSERTION.

Then there are the girls, many of them with time with which to indulge their taste for fancy work. They will each like a pair for personal use or to give to a friend. The embroidered ones I shall describe first.

The material is of butcher's linen, a good quality being selected, so that it is nice and fine. Across the end of each slip have stamped a neat design and after padding work it closely in white mercerized cotton. Place an initial representing the family name of the owner an inch above the edge. Old English script looks best in embroidery as a general thing. Have the buttonholing on the edge firm and heavy, sufficiently padded so that it stands up nicely. Cut out along the edge, finish the slip as usual, but without a hem. By carefully arranging the side seam the embroidery pattern will almost cover it at the end, or at least sufficiently so that it will scarcely show.

A piece of cotton tubing, heavy, yet fine, may be substituted for the linen, if desired.

The second pair of slips described are to be made of ordinary pillow tubing. Turn the hem over upon the right side. This is easily done, since there is no seam at the side. Do not turn the edge under but baste it flat with the raw edge extending. Now cover this raw edge with a row of narrow embroidered insertion such as may be bought for from 5 to 10 cents a yard. Stitch this on either side close to its edge. It furnishes a dainty finish, and is quite ornamental.

By varying the insertion, having no two pairs alike, it is very easy to keep the slips from becoming mixed since one can tell at a glance which ones belong together.

Less expensive even than the insertion is the seam covering used in making underwear, which comes in bunches of several yards each at 10 cents a bunch. This would answer nicely in

place of the insertion, giving a neat finish to the hems.

Sheets may be finished in the same manner if desired, or the slips alone.

The third pair of pillow slip had for ornamentation at the end a row of hair pin trimming used as insertion in the hem.

This work is familiar to those who crochet. Most women now in middle life learned to do it when they were girls. It is made by crocheting around a steel hair pin, turning the pin from side to side, using coarse white thread and a steel hook. An illustration of the work is shown which will make it clear.

After the desired length is completed the edges are finished into a row of single crochet, which affords a firmer substance for attaching to the cloth. Care must be observed not to stretch the work as it comes from the pin.

An inch-and-a-half hem is placed at the end of the slip, one edge of the insertion overhanded to it, then a doubled piece of the goods same width as the hem is overhanded to the other edge, giving the effect of a strip of insertion set in the hem.

The embroidered pair first described are not particularly new, needle work of that variety having long been employed as a decoration, not only as a finish for fine pillow covers but also for sheets. The amount of work represented places them on the list of extras.

From a hygienic standpoint everything favors a medium small pillow. In fact, none at all is what many health-faddists recommend. A woman who I met recently told me that she had cured herself completely of nervousness which threatened a general breakdown simply by giving up her pillow and sleeping without any whatever.

It is all a matter of habit, big pillow, little pillow or no pillow at all, the same as it is in almost every other thing with which we have to do in life. I have had people sleep in my house that asked if I could not give them a smaller one, and I have had other people pile upon the bed every available pillow in the room, while still others have discarded these head elevators entirely and I have found them uncrumpled, piled neatly on a chair next morning. But it remained for one of a gang of clover-hullers to eclipse all experiences by deliberately sleeping upon the pillow shams, pillow and all, evidently taking it that the shams were there for the purpose of protecting the pillows, and why not? Wasn't that the logical conclusion of the uninitiated?

By the way, was not the pillow sham in its day a highly convenient article? Its prestige is gone now, and it is rarely seen. The present day bed furnishing calls for roll or bolster, matching in cover the spread. This may be of net over a color, of dainty sprigged dimity or organdie or of battenburg, but a bolster it is which appears as a day-time dress of the modern bed, whether of brass, of iron, or of wood. At night the bolster is removed with the spread, pillows being brought out from the hiding places to take its place.

Of course, this is not saying that every pillow is banished and that all beds have bolsters, yet this is the prevailing custom at the present time. When there is not a bolster the pillows are in immaculate cases for day attire. Often these have a monogram in the center of each, with richly embroidered ends. Occasionally, only, one sees the shams. They are decidedly out of date. Bolster frames are on sale at all furniture stores. They are made of wood and come in regular sizes, about ten inches in diameter, and cost a dollar and a half, covered only with cloth. A brass bed with valance, spread and bolster to match, all white or over a

pillow instead of lengthwise of it as in the regular weave of casing. There seems not to be much difference in wear between the two.

There is a vast degree of difference between the size and plumpness of pillows as observed in different homes. Who has not, on some occasion, slept in a bed where the pillows were of almost infinitesimal smallness, so much so that they had to be doubled up in order to afford any support to the head. Then again they are so huge that they are really uncomfortable to lie on.

This matter is largely one of education. We like best what we have been accustomed to, for the same reason that mother's cooking seems the best on earth to her children. As a matter of fact, an overly large pillow is as awkward in practical use as the one extremely small. The big ones look best on the bed, tho we all agree on that point.

The generally accepted sizes in pillows run from 20x22 to 22x30. Some extra large ones are 26x30. Slips are made not much longer than the tie, which holds the feathers, a yard for each is ample, with three inches turned off for a hem.

Only the best goose feathers should be put to such use. Hen's feathers are soggy and undesirable. Always protect the ticking with white cotton put on under the slip and made fast to the pillow.

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Mrs. Foolish: "Good evening, Anty Drudge. I'm all tired out—and my washing not done, because my boiler sprung a leak. I'm just looking over this mail order catalog to see what kind to get for next Monday. This aluminum one seems nice, and ought to be light to lift."

Anty Drudge: "No boiler full of water is light to lift. Order a box of Fels-Naptha Soap—save the money you'd spend for a boiler—and you'll be able to do your washing in cool or lukewarm water, with no hard rubbing and in half the time, next week and every week."

If you use Fels-Naptha Soap the hard part of your work is done for you. Fels-Naptha works best in cool or lukewarm water. Clothes washed with Fels-Naptha do not have to be boiled nor rubbed hard and your snowy, clean wash will be on the line in half the time it used to take. Soap your clothes well and put them to soak in cool water for about 30 minutes.

Fels-Naptha does all the other kinds of work just as well and just as easily. You will find directions on the red and green wrapper.

Better buy it by the box or carton
Fels & Co., Philadelphia.



color, is a dainty thing to look upon. With its appointments of easy springs, fine mattress, down comfort or soft wool blankets, it is an inviting place to the weary as well. Yet slumber therein is no whit sweeter or more restful than in the huge four-poster or cottage bedstead of the past where the mattress was a full-stuffed straw-tick topped with a fat feather bed, with patch-work quilts for covering.

Since about one-third of our lives are passed in bed it is no more than right that every comfort possible for those hours should be provided. Surely we should bestow as much care upon our sleeping arrangements as is needful to enable us to receive rest from the toils of the day.—Ella E. Rockwood.

CIDER VINEGAR REGULATIONS.

Considerable misunderstanding on the part of the farmer has recently arisen, concerning the requirements of the Pennsylvania vinegar law, due for the most part to misstatements on the part of traveling salesmen to the effect that cider vinegar made on the farm, does not comply with the law. The law as it now stands is meant to protect the farmer and not restrict his manufacture of cider vinegar.

A portion of Section I of this law reads as follows: "No vinegar shall be sold or exposed for sale as apple or cider vinegar which is not the legitimate product of pure apple juice, or vinegar not made exclusively of said apple cider, or vinegar in which foreign substances, drugs or acids shall have been introduced, as may appear upon proper tests; no vinegar shall be branded fruit vinegar unless the same be made wholly from grapes, apples or other fruits."

Under this language cider vinegar must be made exclusively from pure apple juice, and must not contain any added water, drugs or acids. If it is made thus it will meet every requirement of the law. The act fixes no standard as to solids and acidity in cider vinegar. In addition to the requirements governing the making of vinegar is a provision covering the proper branding or labeling of this product before it is put on the market. This branding may be done with a stencil or by taking cards and labeling each card: "Pure Cider Vinegar," giving the producer's name, together with his postoffice address and attaching the card to each barrel or cask.

A number of inquiries have come to this office from farmers who have been in doubt as to the nature of the vinegar law, and it is for the information of these individuals that we are making this explanation, secured from Dairy and Food Commissioner Foust. An understanding of it will permit the consuming public who desire to secure good, old-fashioned, farm-made cider vinegar to obtain it, and will permit the farmer to use up his surplus apples and dispose of the vinegar either directly or through merchants.

NEW FALL AND WINTER HATS.

Black the Predominating Color.

Being reasonably small, the new hats are becoming to most faces. Black, black, black is the color seen everywhere. Indeed, so many black hats are worn and displayed that it gives a too sombre shade to streets and shops. There are, of course, some bright colors, but they are in a decided minority.

Not only are black hats much worn but they are usually all black. One sees black velvet, black velour, black beaver, black hatters' plush, all serene and unadorned, except with a

remarkable feather sticking up at the back. Occasionally one sees a feather

worn on the side or front of the hat. These remarkable feathers look much like subdued feather dusters. The most ardent bird lover can wear one of these with a clear conscience. No one ever saw a bird with such plumage.

When a hat is of some shade other than black, it is almost invariably trimmed with the same color. That is, brown hats are trimmed with a different shade of brown; gray hats with gray and so on. A handsome brown hat seen in a prominent store had two shades of brown velvet in its construction. There was a bit of gold embroidery around the crown and three graceful brown feathers at the back.

The new hats have medium brims. The crowns are round and straight, like gentlemen's top hats, or puffed. Black velvet and hatters' plush are the favorite materials. Black felt and hatters' plush sailor hats also are seen.—N. D. H.

Potato Soup.—Five potatoes, boiled; two tablespoonsful of onion, two tablespoonsful of carrot, one-fourth teaspoonful of celery salt, salt, pepper and cayenne, three tablespoonsful of butter, two tablespoonsful of flour and one quart of milk. Cook the onion and carrot in butter five minutes, add the flour, milk, and seasonings; cook in a double boiler for twenty minutes; add the mashed potato, and serve after straining. One cupful of stewed and strained tomatoes or one-fourth cupful of tomato catsup may be used to vary this soup.

PENNSYLVANIA FARMER PATTERNS.

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt and size for children's patterns. Address Pennsylvania Farmer, 214-18 So. 12th St., Philadelphia, Pa.



5705—Ladies' Four-Gored Skirt.—Five sizes, 22 to 30 inches, waist. Size 24 measures 34 yards around lower edge and requires, without panel, 1 yards of 44-inch material. Price of pattern, 10 cents.

6374—Ladies' Dress.—Five sizes, 34 to 42 inches, bust measure. Size 36 requires 44 yards of 36-inch material, with 1 yard of contrasting goods. Price of pattern, 10 cents.

6020—Night Drawers.—Sizes 1, 3, 5, 7 and 9 years. Age 5 needs 24 yards of 36-inch goods. Price of pattern, 10 cents.

6365—Girls' Dress.—Four sizes, 6 to 12 years. Age 8 requires 34 yards of 36-inch material, with 1 yard of 27-inch contrasting goods. Price of pattern, 10 cents.

6228—Ladies' Blouse.—Five sizes, 34 to 42 inches, bust measure. Size 36 requires 24 yards 36-inch material. Price, 10 cents.



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We pay the parcel post or express charges on these Bedfordings and know that there are many readers of the Pennsylvania Farmer who will be glad to take advantage of this opportunity to save on Bedfordings of standard quality and of the most desirable kind. If your purchase does not please you when it arrives, return it AT ONCE and we will promptly refund your money.

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- P517—White Woolen Blankets with slight cotton mixture, excellent quality, finished with dainty border colors and broad double-stitched silk binding. These Blankets are extra large, 78x88 inches. Regular value \$7.50, special Mail Order price \$6.00 a pair.
- \$8.00 Blankets.—\$5.00 a pair
- P518—Size 72x82 inches for double beds. These are Woolen Blankets with a slight cotton mixture, finished with dainty border colors and broad double-stitched binding. Special Mail Order price \$5.00 a pair, value \$8.00.
- \$5.00 Blankets.—\$4.00 a pair
- P515—White Woolen Blankets with slight cotton mixture, finished with border colors and broad double-stitched silk binding. These are in size 60x80 for single beds. Worth \$5.00 a pair, special Mail Order price \$4.00.
- \$7.50 Down Quilts.—\$6.50
- P501—Filled with soft down, thoroughly sanitary, covered with figured satin and finished with solid color borders to harmonize. Size about 60x80 feet. Regular value \$7.50, special Mail Order price \$6.50, value \$7.50.
- \$6.00 Down Quilts.—\$5.00
- P500—Covered with very pretty figured satin of good quality, filled with soft sanitary down; size about 60x80 feet. Regular value \$6.00, special Mail Order price \$5.00.
- \$3.75 Comfortables.—\$3.00
- P503—These Comfortables have very attractive figured covering, scroll-stitched, finished with solid-color satin borders. Cotton-filled, light and warm, size about 72x78 inches. Special Mail Order price \$3.00, regular value \$3.75.
- \$2.50 Comfortables.—\$2.00
- P502—Scroll-stitched, cotton-filled Comfortables with coverings in neat designs of various color combinations. Well worth \$2.50, special Mail Order price \$2.00.
- \$5.00 Bed Spreads.—\$4.00
- P504—Satin-finish White Marseilles Bed Spreads of fine quality, size 84x90 inches. Special Mail Order price \$4.00, regular value \$5.00.
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- P504—White Crochet Bed Spreads of excellent quality, pretty Marseilles patterns, size 80x90 inches. Special Mail Order price \$1.50, value \$2.00.
- 30c Pillow Cases.—25c each
- P511—These Pillow Cases are carefully made from bleached muslin of superior quality, size 45x38 1/2 inches, exceptional value at 25c each.
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- P514—These Sheets are in size 90x90 inches, and are especially adapted for use on large brass or enamel bedsteads. Made from bleached muslin of a soft, fine grade. Regular price \$1.40, special Mail Order price \$1.25.
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- P513—Made from standard bleached muslin, size 84x90 inches. Regular value \$1.10, special Mail Order price 95c each.
- 85c Sheets.—75c each
- P512—Size 84x90 inches; a clear saving of 10c on every one of these splendid Sheets.
- 80c Sheets.—68c each
- P509—Made from soft, heavy linen-finish muslin in size 84x90 inches. Value 80c, special Mail Order price 68c each.
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PENNSYLVANIA FARMER. 214 18 So. 12th St. PHILADELPHIA, PA.

Grange

McSPARRAN'S GRANGE NOTES.



It seems to me that those who are asking for and insisting on the building of thru roads across the state in different directions are making an effort to build their structure from the top downward. Even if there was entire good faith in the proposition, and each county was to get its exact share and as many miles of road should be built as it were possible to build out of the money allotted, still the whole plan would be weak and impractical.

The statement has been made that if we were to improve 15 percent of our roads we would benefit 85 percent of our people, and the ingenious insinuation is that we can well afford to squander big amounts of money on a few of our roads because thereby nearly all our people would derive a benefit. Of course it is true that if I want to drive 30 miles and 10 of the 30 are over a first-class road, I would get a benefit by having that 10 miles improved. But the fact remains that the average family is benefited just in proportion as the several roads leading to store, creamery, railroad station and such places that have to be reached often and during all seasons, are made more nearly perfect. There are not many people, comparatively, who want to use the roads for long distances as a rule, and yet nearly every one will occasionally have need to drive long distances. So the extensive improvement of certain thru roads cannot possibly bring the benefit to our people that the reasonable improvement of all our roads would bring.

We are glad to note that Secretary of Agriculture Houston in his address before the road congress at Detroit, gives expression to this very thought in a most forcible way. He says: "The suggestion of great national transcontinental roads appeals to my imagination. But that the essential thing to be done is the providing of good roads which shall get products from the community farms to the nearest station, and make rural life more profitable, comfortable, and pleasurable I entertain no sort of doubt, and it is obvious that the representatives of the people in Congress are like minded. Such roads are equally essential to the establishment and operation of decent elementary and secondary schools for the benefit of the country boys and girls."

This is certainly the sensible view to take of the whole question. The roads that people travel most are the roads that lead away in different directions from their homes or places of business, and those roads should be cared for first.

In the development of our free school system in this country we did not begin with a state college, a state normal school or even a township high school. No one would argue that these are not a benefit to our people, but the benefit of a state college, for instance, to the people of the state in comparison with the ordinary township schools would be so trifling as scarcely to be considered in the same class. As the public schools advanced, the necessity for good teachers brought the normal school; and as the courses of study were developed and enlarged, we have added the township high school, special schools for deficient children and state colleges for those who want to pursue more advanced work.

The same line of development should

certainly be followed in a state road system. Boulevards should come in last for consideration. First should come a general system of good dirt roads with the state aid so arranged as to penalize poor work and poor roads. Then, when everybody had fair roads to travel over, and it would not take long to make them so, the demand would come for a more improved road where traffic was heaviest; and, lastly, the interurban roads would logically come up for consideration. This is not a selfish country view of the road question, because it must be remembered that the cities already have the steam roads from one to the other. And also in many cases, they have interurban trolley and steam roads while the country people, if the public roads are bad, have no other way to get from place to place except as they may live along a steam or electric railroad.

The Stewart highway bill was a boulevard proposition. The Sproul bill is a boulevard proposition. The Highway Department itself is a boulevard proposition. It cannot even get out a bulletin on dirt roads. By building these boulevards first we are making the roads that will be beneficial to the least number of people, and yet will use up the greatest amount of tax. We have the cart before the horse. We are trying to build the roof and then put the building under it. It is a poor way to build, and the sooner we get back to the foundation and build up from there, the sooner we will have an adequate, up-to-date system of roads.—John A. McSparran.

Looking Over The Fence.

By THE COUNTRY PARSON.

"Agricultural Education and Co-operation."

In the Department of Agriculture things are beginning to move. The real question at this moment is how the department can be made more useful to the farmer.

This does not mean that there is to be any let-up in the work of experimental investigation. Quite the reverse. Indications are that the work will be pushed into new fields, especially into the field of bacteriological research. I understand that a study is now being made of plants usually classed as weeds in an effort to determine the relation of their bacteria to those of food plants. That the presence of the partridge pea removes the necessity of inoculation for cow-peas has long been known. Are there other plants whose presence removes the necessity of inoculation for say beans or alfalfa? This is an important question and it should be answered, even if the answering of it leads to a rewriting of our books on botany.

The answering of this question will undoubtedly have a bearing on the science of agronomy. We know something of the immense value of the activities of nitrogen-fixing bacteria in connection with the legumes. What do we know of the bacteria of corn or wheat or turnips? Why do acid soils grow plants with an acid taste or with acid fruits, like sorrel or dewberries? Is this due to a bacterial process of nature, striving to rid the soil of an overplus of acidity? Is there any way to assist this process of nature, except by the application of calcium?

These may be foolish questions, but I think it is up to agricultural science to answer them. I am anxious to see them answered for I have long felt that our next advance in the study of agriculture will be along the line of bacterial

investigation. If this means a rewriting of our text books on agronomy, I am not especially worried.

Another most helpful thing is the establishment of the bureau of marketing. This is indeed a problem. I recently met a small German truck-grower, named Wilks, from Anne Arundel County, Md., in the store of my friend, the feedman. He made his purchase and asked: "How much do I owe you?" "Your bill is \$3.85," said the feed dealer. "I will give you \$2.50," said the trucker. "I guess not," replied the feedman. "But when I come to town that is what they say to me," answered Wilks.

Of course, the whole thing was a joke, but I have never seen a more apt illustration of present marketing conditions as they affect the farmer. Wilks had on that Saturday morning hauled 40 baskets of cantaloupes 8 miles to market, for which he received the munificent sum of \$3.00. Within two hours after I met him, I happened to be in a provision store, where I saw three baskets of cantaloupes brought in. "George," said I to the colored driver, "what did you have to pay for them?" To my astonishment he replied: "Forty cents a basket."

I have no doubt that the commission man who paid poor Wilks \$3.00 for 40 baskets not over three hours before, could give a dozen plausible explanations to justify his action. But what good does that do Wilks? The fact remains that he was told: "I will give you so much." The price of his product was fixed for him. When he came to buy, he was told: "You give me so much." His price was again fixed for him. His position was exactly that of the American farmer who sells his products for six billion dollars to see them

resold for thirteen billions, and then meekly pays the man who purchased them whatever he asks for the things the farmer needs.

Why this should be is a big question. It includes transportation, finance, agricultural savings and credits, co-operative buying and selling, rural education and a dozen other things to which our political economists have paid absolutely no attention. The best of them usually dismiss agricultural economies with one short chapter. They study every form of co-operative effort excepting agricultural co-operation. But just this is the most recent and beneficial form of co-operation in every country of Europe, where it is encouraged and directed by the state.

We in this country have reduced the competitive system of marketing farm products to an absurdity. Now, profiting by the experience of these other countries and throwing his own undefeated energy into his task, Uncle Sam is going to tackle this marketing proposition. I think when he gets thru, our political economists whose present knowledge of agricultural economies is seemingly confined to the corn laws of old England, will be writing some new chapters in their works. The headings, I think, will be agricultural education and co-operation. They have my sympathy, but the sooner this thing comes to pass, the better it will be for the American farmers.

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The Mitchell Big Six is very much the same design as the Little Six. It has sixty horse-power, 144 inch wheel-base and seats seven passengers. It has big tires and the same splendid finish throughout as the Little Six, likewise the same fine equipment. Price, \$2,350

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The Car You Ought to Have at the Price You Ought to Pay

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80 Years of Faithful Service to the American Public

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Prices F. O. B. Racine

Winston of the Prairie

By HAROLD BINDLOSS

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SYNOPSIS OF PREVIOUS CHAPTERS.

Farmer Winston, having failed as a home-steader and driven to desperation, accepts a proposal to simulate Lance Courthorne, an adventurer, thus deceiving government officials so that Courthorne may smuggle thru some illegal distillery products. In the effort of the police to capture the smugglers, Winston plays his part. Trooper Shannon of the police is shot by Courthorne, who leaves evidence pointing to Winston as the murderer. The scene shifts to Silverdale, a settlement founded by Colonel Barrington. Maud Barrington, his niece and ward, just returned from a visit to Montreal, questions him concerning settlement affairs and learns that wheat prices have dropped, the colonel worrying over his past advice to her to leave the wheat grown on her land. She learns, also, that Lance Courthorne, her cousin, is coming to Silverdale to claim the land left him there by his father. The colonel, knowing Courthorne's unsavory record, is worried over his coming to the settlement, the girl seeking to reassure him with hopes of Courthorne's reform.

CHAPTER V.—(Continued).

The colonel's smile was very grim. "It is fifteen years since I saw him at Westham, and they were not much in evidence then. I can remember two little episodes, in which he figured, with painful distinctness, and one was the hanging of a terrier which had in some way displeased him. The beast was past assistance when I arrived on the scene, but the devilish pleasure in the lad's face sent a chill thru me. In the other, the gardener's lad hung a stone at a blackbird on the wall above the vineyard, and Master Lance, who I fancy did not like the gardener's lad, flung one thru the glass. Geoffrey, who was angry, but had not seen what I saw, haled the boy before him, and Lance looked him in the face and lied with the assurance of an ambassador. The end was that the gardener who was admonished cuffed the innocent lad. These, my dear, are somewhat instructive memories."

"I wonder," said Maud Barrington, glancing out across the prairie which was growing dusky now, "why you took the trouble to call them up for me?"

The colonel smiled dryly. "I never saw a Courthorne who could not catch a woman's eye, or had any undue diffidence about making the most of the fact, and that is partly why they have brought so much trouble on everybody connected with them. Further, it is unfortunate that women are not infinitely more inclined to be gracious to the sinner who repents, when it is worth his while, than they are to the honest man who has done no wrong. Nor do I know that it is only pity which influences them. Some of you take an exasperating delight in picturesque inequality."

Miss Barrington laughed, and fearlessly met her uncle's glance. "Then you don't believe in penitence?"

"Well," said the colonel dryly. "I am, I hope a Christian man, but I would be difficult to convince me that the gambler, cattle thief, and whiskey-runner who ruined every man and woman who trusted him be admitted to the same place as clean-lived English gentlemen. There are, my dear, plenty of them still."

Barrington spoke almost fiercely, and then flushed thru his tan, when the girl looking into his eyes smiled a little. "Yes," she said, "I can believe it, because I owe a good deal to one of them."

The ring in the girl's voice belied the smile, and the speech was warrantable, for, dogmatic, domineering, and vindictive as he was apt to be occasionally, the words he had used applied most fitly to Colonel Barrington. His word at least had never been broken, and had he not adhered steadfastly to his own rigid code, he would have been a good

deal richer man than he was then. Nor did his little shortcomings which were burlesqued virtues, and ludicrous now and then, greatly detract from the stamp of dignity which, for speech was his worst point, sat well upon him. He was innately conservative to the backbone, the since an ungrateful government had slighted him he had become an ardent Canadian, and in all political questions aggressively democratic.

"My dear, I sometimes fancy I am a hypocritical old fogey!" he said, and sighed a little, while once more the anxious look crept into his face. "Just now I wish devoutly I was a better business man."

Nothing more was said for a little and Miss Barrington watched the crimson sunset burn out down on the prairie's western rim. Then the pale stars blinked out thru the creeping dusk, and a great silence and an utter cold settled down upon the waste. The muffled thud of hoofs, and the crunching beneath the sliding steel seemed to intensify it, and there was a suggestion of frozen brilliancy in the sparks flung back by the snow. Then a coyote howled dolefully on a distant bluff, and the girl shivered as she shrank down further amidst the furs.

"Forty degrees of frost," said the colonel. "Perhaps more. This is very different from the cold of Montreal. Still, you'll see the lights of Silverdale from the crest of the next rise."

It was, however, an hour before they reached them, and Miss Barrington was almost frozen when the first square log-house rose out of the prairie. It and others that followed it flitted by, and then, flanked by a great birch bluff, with outlying barns, granaries, and stables looming black about it against a crystalline sky, Silverdale Grange grew into shape across their way. Its rows of ruddy windows cast streaks of flickering orange down the trail. The baying of dogs changed into a joyous clamor, when the colonel reined in his team, half-seen men in furs waved a greeting and one who risked frost-bitten with his cap at his knee handed Miss Barrington from the sleigh and up the veranda stairway.

She had need of the assistance, for her limbs were stiff and almost powerless, and she gasped a little when she passed into the drowsy warmth and brightness of the great log-walled hall. The chilled blood surged back tingling to her skin, and swaying with a creeping faintness she found refuge in the arms of a gray-haired lady who stooped and kissed her gently. Then the door swung to, and she was home again in the wooden grange of Silverdale, which stood far remote from any civilization but its own on the frozen levels of the great white plain.

CHAPTER VI. Anticipations.

It was late at night, and outside the prairie lay white and utterly silent under the arctic cold, when Maud Barrington, who glanced at it thru the double windows, flung back the curtains with a little shiver, and turning towards the fire sat down on a little velvet footstool beside her aunt's knee. She had shaken out the coils of lustrous brown hair which flowed about her shoulders glinting in the light of the shaded lamp, and it was with a little gesture of physical content she stretched her hands towards the hearth. A rumbling birch log still gleamed redly amidst the feathery ashes, but its ef-

fect was chiefly artistic, for no open fire could have dissipated the cold of the prairie, and a big tiled stove, brought from Teutonic Minnesota, furnished the needful warmth.

The girl's face was partly in shadow, and her figure foreshadowed by her pose, which accentuated its rounded outline and concealed its willowy slenderness; but the broad white forehead and straight nose became visible when she moved her head a trifle, and a faintly humorous sparkle crept into the clear brown eyes. Possibly Maud Barrington looked her best just then, for the lower part of the pale-tinted face was a trifle too firm in its modeling.

"No. I am not tired, aunt, and I could not sleep just now," she said. "You see, after leaving all that behind one, one feels, as it were, adrift, and it is necessary to realize one's self again."

The little silver-haired lady who sat in the big basket chair smiled down upon her, and laid a thin white hand that was still beautiful upon the gleaming hair.

"I can understand, my dear, and am glad you enjoyed your stay in the city, because sometimes when I count your birthdays I can't help a fancy that you are not young enough," she said. "You have lived out here with two old people who belong to the past too much."

The girl moved a little, and swept her glance slowly around the room. It was small and scantily furnished, the great curtains shrouded door and window, and here and there a picture relieved the bareness of the walls, which were paneled with roughly-dressed British-Columbian cedar. The floor was of redwood, diligently polished and adorned, not covered, by one or two skins brought by some of Colonel Barrington's younger neighbors from the Rockies. There were two basket chairs and a plain redwood table; but in contrast to them a cabinet of old French workmanship stood in one corner bearing books in dainty bindings, and two great silver candlesticks. The shaded lamp was also of the same metal, and the whole room with its faint resinous smell conveyed, in a fashion not uncommon on the prairie, a suggestion of taste and refinement held in check by at least comparative poverty. Colonel Barrington was a widower who had been esteemed a man of wealth, but the founding of Silverdale had made a serious road on his finances. Even yet, the he occasionally practiced it, he did not take kindly to economy.

"Yes," said the girl, "I enjoyed it all—and it was so different from the prairie."

There was comprehension, and a trace of sympathy, in Miss Barrington's nod. "Tell me a little, my dear," she said. "There was not a great deal about it in your letters."

Her niece glanced dreamily into the sinking fire as the she would call up the pictures there. "But you know it all—the life I have only had glimpses of. Well, for the first few months I almost lost my head, and was swung right off my feet by the whirl of it. It was then I was, perhaps, just a trifle thoughtless."

The white-haired lady laughed softly. "It is difficult to believe it, Maud."

The girl shook her head reproachfully. "I know what you mean, and perhaps you are right, for that was what ToINETTE insinuated," she said. "She actually told me that I should be thankful I had a brain since I had no heart. Still, at first I let myself go, and it was delightful—the opera, the dances and the covered skating-rink with the music and the black ice flashing beneath the lights. The whirl of the toboggans down the great slide was finer still, and the torchlight meets of the snowshoe clubs on the mountain. Yes,

I think I was really young while it lasted."

"For a month," said the elder. "And after?"

"Then," said the girl slowly, "it all seemed to grow a trifle purposeless, and there was something that spoiled it. ToINETTE was quite angry and I know her mother wrote you—but it was not my fault, aunt. How was I, a guileless girl from the prairie, to guess that such a man would fling the handkerchief to me?"

The evenness of tone and entire absence of embarrassment was significant. It also pointed to the fact that there was a closer confidence between Maud Barrington and her aunt than often exists between mother and daughter, and the elder lady stroked the lustrous head that rested against her knee with a little affectionate pride.

"My dear, you know you are beautiful, and you have the cachet that all the Courthornes wear. Still, you could not like him! Tell me about him."

Maud Barrington curled herself up further. "I think I could have liked him, but that was all," she said. "He was nice to look at and did all the little things gracefully; but he had never done anything else, never would, and I fancy, never wanted to. Now a man of that kind would very soon pall on me, and I should have lost my temper trying to waken him to his responsibilities."

"And what kind of man would please you?"

Maud Barrington's eyes twinkled, but the fact that she answered at all was a proof of the sympathy between herself and the questioner. "I do not know that I am anxious any of them should," she said. "But since you ask, he would have to be a man first: a toiling, striving animal who could hold his own amidst his fellows wherever he was placed. Secondly, one would naturally prefer a gentleman, though I do not like the word, and one would fancy the combination a trifle rare, because brains and birth do not necessarily tally, and the man educated by the struggle for existence is apt to be taught more than he ever would be at Oxford or in the army. Still, men of that stamp forget a good deal, and learn so much that is undesirable, you see. In fact, I only know one man who would have suited me, and he is debarred by age and affinity—but, because we are so much alike, I can't help fancying that you once knew another."

The smile on Miss Barrington's face, which was still almost beautiful as well as patient, became a trifle wistful.

"There are few better men than my brother, tho he is not clever," she said, and dropped her voice a little. "As for the other, he died in India—beside his mountain gun—long ago."

"And you have never forgotten! He must have been worth it—I wonder if loyalty and chivalric faith belong only to the past," said the girl, reaching up a rounded arm and patting her aunt's thin hand. "And now we will be practical. I fancied the head of the settlement looked worried when he met me, and he is not very proficient at hiding his feelings."

Miss Barrington sighed. "I am afraid that is nothing very new, and wheat steadily falling and our granaries full, he has cause for anxiety. The fact that Lance Courthorne has divided your inheritance and is going to settle here has been troubling him."

"The first is the lesser evil," said the girl, with a little laugh. "I was very short frocks when I last saw Lance in England, and so far as I can remember he had the face of an angel and the temper of a devil. But did not my uncle endeavor to buy him off, and—for I know you have been finding out

things—I want you to tell me all about him."

"He would not take the money," said Miss Barrington, and sat in thoughtful silence a space. Then, and perhaps she had a reason, she quietly recounted Courthorne's Canadian history so far as her brother's agents had been able to trace it, not omitting, daintily in thought and speech as she was, one or two incidents which a mother might have kept back from her daughter's ears. Still, it was very seldom that Miss Barrington made a blunder. There was a faint pinkness in her face when she concluded, but she was not surprised when, with a slow, sinuous movement, the girl rose to her feet. Her cheeks were very slightly flushed, but there was significant sparkle in her eyes.

"Oh," she said, in utter contempt. "How sickening! Are there men like that?"

There was a little silence, emphasized by the snapping in the stove, and if Miss Barrington had spoken with an object she should have been contented. The girl was imperious in her anger, which was caused by something deeper than startled prudery.

"It is," said the little white-haired lady, "all quite true. Still, I must confess that my brother and myself were a trifle astonished at the report of the lawyer he sent to confer with Lance in Montana. One would almost have imagined that he had of late been trying to make amends."

The girl's face was very scornful. "Could a man with a past like that ever live it down?"

"We have a warrant for believing it," said Miss Barrington quietly, as she laid her hand on her companion's arm. "My dear, I have told you what Lance was, because I felt it was right that you should know; but none of us can tell what he may be, and if the man is honestly trying to lead a different life, all I ask is that you should not wound him by any manifest suspicion. Those who have never been tempted can afford to be merciful."

Maud Barrington laughed somewhat curiously. "You are a very wise woman, aunt, but you are a little transparent now and then," she said. "At least he shall have a fair trial without prejudice or favor—and if he fails, as I tell him, we shall find the means of punishing him."

"We?" said the elder lady maliciously.

The girl nodded as she moved towards the doorway, and then turned a moment with the folds of the big red curtain flung behind her. It forced up the sweeping lines of a figure so delicately molded that its slenderness was scarcely apparent, for Maud Barrington still wore a long somber dress that had assisted in her triumphs in the city. It emphasized the clear pallor of her skin and the brightness of her eyes, as she held herself very erect in a pose which, while assumed in mockery, had set in it something that was almost imperial.

"Yes," she said. "We. You know who is the power behind the throne at Silverdale, and what the boys call me. And now, good-night. Sleep well, dear."

She went out, and Miss Barrington sat very still gazing with eyes that were curiously thoughtful into the fire. "Princess of the Prairie—and it fits her well," she said and then sighed a little. "And if there is a trace of hardness in the girl it may be fortunate. We all have our troubles—and wheat is going down."

In the meanwhile, late as it was, Colonel Barrington and his chief lieutenant, Gordon Dane, sat in his log-walled smoking room talking with a man he sold his wheat thru in Winnipeg. The room was big and bare. There were a

few fine heads of antelope upon the walls, and beneath them an armory of English-made shotguns and rifles, while a row of silver-mounted riding crops, and some handled with ivory, stood in a corner. All these represented amusement, while two or three treatises on veterinary surgery and agriculture, lying amidst English stud-books and racing records, presumably stood for industry. The comparison was significant, and Graham, the Winnipeg broker, noticed it as he listened patiently to the views of Colonel Barrington, who nevertheless worked hard enough in his own fashion. Unfortunately it was rather the fashion of the English gentleman than that common on the prairie.

"And now," he said, with a trace of anxiety he had concealed in his eyes. "I am open to hear what you can do for me."

"Graham smiled a little. "It isn't very much, colonel. I'll take all your wheat off you at three cents down."

Now Barrington did not like the broker's smile. It savored too much of equality, and, tho he had already nagged as far as he was capable of doing, he had no great esteem for men of business. Nor did it please him to be addressed as "Colonel."

"That," he said coldly, "is out of the question. I would not sell at the last market price. Besides, you have hitherto acted as my broker."

Graham nodded. "The market price will be less than what I offered you in a week, and I could scarcely sell your wheat at it today. I was going to haul it myself, because I can occasionally get a little more from one or two millers who like that special grade. Usual sorts I'm selling for a fall. Quite sure the deal wouldn't suit you?"

Barrington lighted a fresh cigar, tho Graham noticed that he had smoked very little of the one flung away. This was, of course, a trifle, but it is the trifles that count in the aggregate upon the prairie, as they not infrequently do elsewhere.

"I fancy I told you so," he said.

The broker glanced at Dane, who was a big, bronzed man, and, since Barrington could not see him, shook his head deprecatingly.

"You can consider that decided, Graham," he said. "Still, can you as a friendly deed give us any notion of what to do? As you know, farming, especially at Silverdale, costs money, and the banks are demanding an iniquitous interest just now, while we are carrying over a good deal of wheat."

Graham nodded. He understood why farming was unusually expensive at Silverdale, and was, in recollection of past favors, inclined to be disinterestedly friendly.

"If I were you, I would sell right along for forward delivery at a few cents under the market."

"It is a trifle difficult to see how that would help us," said Barrington, with a little gesture of irritation, for it almost seemed that the broker was deriding him.

"No!" said the man from Winnipeg, "on the contrary, it's quite easy. Now I can predict that wheat will touch lower prices still before you have to make a delivery, and it isn't very difficult to figure out the profit on selling a thing for a dollar and then buying it, when you have to produce it, at 90 cents. Of course, there is a risk of the market going against you, but you could buy at the first rise, and you've your stock to dole out in case anybody cornered you."

"That," said Dane thoughtfully, "appears to be sensible. Of course, it's a speculation, but presumably we couldn't be much worse off than we are. Have you any objections to the scheme, sir?"

Barrington laid down his cigar, and glanced with astonished severity at the

speaker. "Unfortunately, I have. We are wheat growers and not wheat jugglers. Our purpose is to farm, and not swindle and lie in the wheat pits for decimal differences. I have a distinct antipathy to anything of the kind."

"But, sir," said Dane, and Barrington stopped him with a gesture. "I would," he said, "as soon turn gambler. Still, while it has always been a tradition at Silverdale that the head of the settlement's lead is to be followed, that need not prevent you putting on the gloves with the wheat-ring blacklegs in Winnipeg."

Dane blushed a little under his tan, and then smiled as he remembered the one speculative venture his leader had indulged in, for Colonel Barrington was a somewhat hot-tempered and vindictive man. He made a little gesture of deprecation as he glanced at Graham, who straightened himself suddenly in his chair.

"I should not think of doing so in face of your opinion, sir," he said. "There is an end to the thing, Graham!"

The broker's face was a trifle grim.

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intensive each year, the results of the work as it has been carried on at the state institution will bear closer study.

The poultry department of the school, which is very thoroly organized, is also making a good showing, as will be observed from the following tabulation:

SALES FOR 1912-1913.

	—Poultry—			
	Eggs	Chickens	Sundries	Total
July	\$189.77	\$30.11	\$2.60	\$222.48
August	135.18	129.04	14.99	279.21
September	50.23	194.80	30.88	275.91
October	9.58	85.90	12.15	107.63
November	15.91	80.12	19.28	115.31
December	21.95	55.41	7.16	84.52
January	41.73	4.77	13.00	59.50
February	51.32	22.55	10.24	84.11
March	81.23	2.23	5.98	89.44
April	76.49	66.82	10.51	147.82
May	90.35	57.21	13.11	160.67
June	73.76	52.80	17.46	104.02
Total	\$837.50	\$775.76	\$157.36	\$1770.62

Careful account is kept of every item of profit and expenditure in connection with every department of the farm. The farm is not intended as a money maker. Its primary object is to carry on experimental work and to furnish a laboratory with which the student may supplement and correlate his theoretical knowledge. The college owns over six hundred acres of land and has control of about four hundred acres more. The fact that in the last few years a number of the departments have been able to contribute to their own support speaks well for the character of the work and the care with which it is being prosecuted.—C. M. A.

Our Farm Counselor

By R. P. Kester, Penna. Farm Advisor on Soils and Crops.

Forms of Lime.

S. C. W. asks about the forms of lime, as follows: "Believing that my land needs lime I have decided to apply it to about 10 acres each year. Which is the best and most economical form?"

It was not long since that there was but one "form" of lime meant when this subject was discussed and that was limestone which had been burned in a kiln and is now known as caustic or quick lime. In the last few years other methods of treating the limestone have come into use and the different names and claims have tended to confuse many. We must standardize the names and learn to use them meaningly.

Stone-lime or lump-lime is limestone that has been burned and becomes caustic or quick lime. One hundred pounds of limestone will weigh 56 pounds after burning. Pulverized lime, or ground lime, is burned lime which has been ground into a powder. Hydrated lime is burned lime slaked by water after a certain process. The 56 pounds of lime mentioned above, after having 18 pounds of water added to it, produce 74 pounds of hydrated lime. Pulverized limestone, or ground limestone is the raw, or unburned limestone from the quarry, made fine by grinding. Air-slaked lime is burned, or stone-lime, or hydrated lime, which has combined with carbonic acid from the air and returned to its original weight when first quarried.

The question for you to decide is which is the most economical. Compare the prices of the different forms delivered at your station and also note the comparative ease or difficulty of applying. By far the greater amount of lime has been applied in the past as stone or burned lime, and in most instances it is the cheapest form. But there are several drawbacks. Many farmers have told me that they could not get men for

love or money to handle caustic lime. Again, not much less than 3,000 lbs. per acre can be evenly spread by hand. One good way is to haul it in winter and let it air-slake under cover, and apply with a lime spreader, after putting it thru a screen.

	Eggs	Chickens	Sundries	Total
July	\$189.77	\$30.11	\$2.60	\$222.48
August	135.18	129.04	14.99	279.21
September	50.23	194.80	30.88	275.91
October	9.58	85.90	12.15	107.63
November	15.91	80.12	19.28	115.31
December	21.95	55.41	7.16	84.52
January	41.73	4.77	13.00	59.50
February	51.32	22.55	10.24	84.11
March	81.23	2.23	5.98	89.44
April	76.49	66.82	10.51	147.82
May	90.35	57.21	13.11	160.67
June	73.76	52.80	17.46	104.02

Hydrated lime has the advantage of being purer lime than the "run of the kiln," since the core has been rejected. It is also easier to handle. Pulverized, or ground lime must be used promptly or it will shake and burst the sacks, causing loss and annoyance.

Pulverized or ground limestone is gaining in popularity, especially in limestone regions where freight charges are not to be added. Since we must apply almost twice as much in this form as of burned lime, the cost is pro-

Mr. C will examine closely he will probably find that the white grub has done the damage, and that the moles were there eating the grubs. Skunks also consider the white grub a juicy morsel and will dig a little hole down to a potato and hook the grub out. The only damage moles do is in tunneling the ground. Since the white grub stays in the ground two to three years before emerging as a June beetle, it may injure the wheat by eating the roots. They often seriously injure timothy and other sods in this way.—R. P. K.

THE HYDRAULIC RAM.

The accompanying illustration shows the working principle of the common type of hydraulic ram, one of the cheapest and most efficient water-power pumps that can be installed. The following brief description of the operation of this little engine appeared in the Scientific American of May 17:

"To most people an hydraulic ram is a mystery. As a matter of fact, it is the most simple and efficient mechanical device for raising water by water power. This is probably what makes it seem so mysterious to those who have never seen a ram at work.

Pumping water by hydraulic ram makes a water-supply system far superior to any other except a gravity system. In some instances it is even better than gravity in matter of expense when a gravity supply requires

tween the levels of the ram and the water supply. This stream of water, once started flowing, will continue without interruption, day and night, winter and summer, requiring no attention nor expense except for the renewal of rubber valves on the ram once every year or two. This is a trifling expense, as the valves cost but little.

The efficiency of a ram can be very great, reaching, under favorable conditions, 80 percent or more. This means that the ram will pump more water to the same height than any other kind of engine which pumps water by means of water power.

The amount of water that may be pumped per day by such a ram is remarkable. It will pump as much as a quarter of a million gallons a day. If a delivery of two million gallons a day is required, a "battery" of rams can be installed. That is, two or more rams are placed side by side."

When it is desired to use pneumatic pressure tanks instead of gravity tanks, a ram can be secured that will not only supply water, but also maintain the air pressure up to 100 pounds, as may be desired. One form of hydraulic ram is double-acting; that is, it will pump pure water from a near-by spring, being operated by dirty or impure water from some stream. Such a ram is of value where the supply of pure water is very limited. The dirty water is used simply as the operative means; the two waters never mix.

THE TIME FOR SEEDING ALFALFA

As with other crops, the right time for seeding alfalfa varies with the kind of season. Formerly recommendations almost universally called for seeding alfalfa during the first half of August. While the ideal time for seeding alfalfa, theoretically, may be when every condition is just right, especially the weather; still, when it costs well on to \$50 to make a new seeding of an acre of alfalfa it does not seem to be just the proper thing to go to the expense of getting every condition, correct, and then to take a chance on the weather; in fact, the experience of many, and our own in particular, points to an earlier seeding as best, in order to insure against a large percentage of failures before the prize is captured.

Our first seeding of alfalfa was made on four square rods of soil in August. The soil was not limed, manured, or inoculated before seeding, but being made on such a small plot we could easily feed the plants after growth had begun. This seeding was a success. We tried again, this time on a larger scale, intending to seed two acres the first half of August, but owing to the drought and an unusual delay in the transportation of our seed, which we had ordered in ample time, seeding was delayed until September. This we thought was too late, so we seeded only one acre, which was a failure. In going over the field the following March and April one could see the alfalfa plants root and all, lying on top of the soil. We immediately plowed the acre again and reseeded, this time inoculating the seed with pure culture and sowing spring barley as a nurse crop. Lime, manure, fertilizer and a thorough preparation of the seed bed had, in the course of these operations, been duly looked after. This seeding of an acre has yielded profitably up to this time. It is, however, falling back at present. We shall manure, lime, disk and reseed again next spring.

Before the first acre was seeded in the spring with barley as a nurse crop it was planted with early potatoes. We got the potatoes off in good time and seeded to alfalfa the early part of August. According to the best teachings of the times, we had every condition

right, but the weather. There was not enough moisture to enable the plants to grow sufficiently to get a grip on the soil. The result is we have only half a stand. Next spring we shall disk and reseed.

I do not advocate spring seeding, but if I were going to make a new seeding of alfalfa I would have everything in readiness by the last week in June when, if weather conditions were right, I would seed; if not, I should wait until after the first shower of rain that would give enough moisture to germinate the seed quickly.—V. Ross Nicodemus, Bedford Co., Pa.

A SUGGESTION FOR POTATO GROWERS.

Success in life comes from the doing of work which provokes enthusiasm and claims the interest. If this means stepping out of the beaten tracks, so much the better for the individual and the world, provided the doing rests on good foundations. What the farmers of this country want to be made to feel is that there is a limitless field for them individually to explore, and that what the scientists can do is but a suggestion, a hint for others to work out.

Somehow there seems to be altogether too much dependence on somebody else, and not enough independent investigation. Men take the seed which comes from somewhere and accept it as best that can be obtained, when they would be better off financially, and mentally, if they set themselves to developing new varieties, or improving what they now have. Our dependence on the seedsmen is a curse to our agriculture. In this matter of potato culture the grower has it all in his own hands if he will but follow some definite plan of seed selection.

Here is a little experiment which has in it dollars for any man, as well as a sure think jogger for him who looks. At planting time next spring, select 100 potatoes from the seed pile, as nearly alike in type, size, shape and evidence of vitality, as possible. Cut each into four pieces, keeping entirely separate. When ready to plant, give equal space to each four bits and mark each four hills. You will have 400 hills, representing 100 potatoes of one variety. You can watch and make note of the results of each potato. The man who has not tried this will be more than surprised as the season progresses.

When some of those 400 hills are 8 inches high, others will be just breaking ground, and all thru the season as wide variations will be seen. One who watches will be startled at the story of certain loss following a want of uniformity in reproductive power. Here we may approach the fixedness of systematic breeding by selecting, as the base for the next year's plot work those potatoes coming from the best four hills grown from any one of the 100 specimens. Here we get directly down to unit work, and lay a foundation for future improvement in seed, and not to be obtained in any other manner, or by any other course. We have started with one potato, and that the best out of 100 selected from the entire lot saved, or purchased for seed. It is only necessary that we follow this method of selection, and planting for a few years to make sure of a crop having greatly increased resistant power against insects and diseases, and with all this the ability to add very materially to the yield.

This is a very simple experiment, calling only for a few minutes extra time. The seed must be kept separate when cut, each potato, or four pieces, planted by itself, and marked. Then, at digging time, each four hills are to be dug and saved separately. Here is all the extra work there is, but the outcome with

any man who will follow this policy for a few years will be that he will realize big interest on the outlay, and be a better farmer in all ways. The man who has worked out this little experiment to his profit and satisfaction can go a step further and make the same sort of a test with the seed end of different potatoes.

It is in these little ways that one reaches towards permanence in breeding whether with animals or crops, and, in the consecutive thought forced by watching these experiments, there is sure to follow a clearer conception of the possibilities of farm life, and compensations far beyond the increase in revenue realized. If we would only set ourselves to the doing of something with the one purpose of improvement, there would come a spirit of enthusiasm for farm life and work which would revolutionize the whole situation. We all want to be made alive to the fact that

their wives, sons and daughters.

Whole families often belong, from 14 years of age upward. There is a room where the younger children spend the hours the alliance is in session. When a literary program is given these children have a hand in it too. The farmers' institutes for this section are always held at Black Ash. Invariably the speakers say that we have the largest attendance for a purely agricultural community of any place they go.

Our alliance started with 23 charter members. There are now 117 male members and 69 female. There are 96 insurance policies in force and \$100,000 of insurance. This shows what a rural community can do. The rural uplift commission would not find here the same conditions they found in some places. This hall is 12 miles from the nearest railroad, 7 miles from the nearest small town and 14 miles from a city. From 25 to 50 members meet here each

tor. However, the expert visited the place and began to look around. He was just taking a sample of soil for test of acid when the owner of the farm came around and inquired of the expert if he was going to dig a well or start a gold mine. He replied that he reckoned there was more gold in this farm than in some gold mines, if we could find a way of getting it out. On making a litmus-paper test, the expert shook his head and pointing to a field of sickly clover remarked: "That clover can't stand that sort of treatment and if a crop is expected next year it will need to have some medicine," which the farm doctor prescribed.

There was a neighboring field of corn, sickly-looking, pale and small. "You'll not get 40 bushels to the acre off this field and you should get 80, and you've done work enough to warrant it if work were all. Let's see what the trouble is," he went on to say, as he pulled up a stalk of corn. A little probing brought the offender to light—a white worm about a quarter of an inch long. "That's a corn-root worm," said the crop doctor. "You can't escape him where you are raising corn year after year. Such a stalk can never produce a pound ear of corn." "I've been farming for 40 years, and that is the first time I ever gave any attention to those things," said the farmer. The long and short of it was, the farmer was converted to the religion of the expert.

This soil doctor of De Kalb County, Ill., receives \$4,000 salary. He has been at work three years, therefore, he has earned \$12,000. That is what he has received. What has he accomplished for the county? Since he has been employed the average yield of corn has increased 10 bushels per acre. As there are 100,000 acres to corn in that county on the average, he has added \$500,000 to the value of that one crop alone.

This is the kind of work the farm expert or agricultural advisor is doing. He gets in touch, literally, with the farmer and his problems. He must show him what his soil lacks and how to provide what it lacks. He must suggest, suggest, suggest, and never let up, and then see that his instructions are carried out. He will probably have best success with the young farmer who is willing to co-operate with him and has no prejudice to overcome. He will hold demonstration meetings in school houses (which in New York will be open to public meetings out of school hours) and will educate thru the medium of lantern slide lectures. And what an opportunity there is just here! He will help to create a public sentiment for agricultural instruction in the common schools. He will, in a hundred ways, develop and improve the farming of the community in which he operates.—J. W. Darrow, Columbia Co., N. Y.

GET READY FOR THE CORN SHOW.

The annual corn show of the Pennsylvania Live Stock Breeders' Association will be held the third week in January at York, Pa., in connection with the meetings of the Pennsylvania Live Stock Breeders' Association, the Horticultural Association and the Dairy Union. This is the big show of the state and every farmer should have in mind when he looks his corn and should select the best ears from which an exhibit of ten ears can later be made. Medals, cups and cash prizes will be awarded in the various classes. In the past years exhibitors from Chester and Green counties have won more prizes than those of any other. This year the farmers of the state should show these exhibitors that these two counties are not the only ones on the map. Winners of two first prizes in previous years will show in special classes this time giving the new men a better chance. For premium list and entry blank address, C. E. Meyers, secretary of plant section, State College, Pennsylvania.



BLACK ASH ALLIANCE HALL, CRAWFORD CO., PA.

there is no other field offering such opportunities for careful, systematic research as the farm, none promising greater returns for intelligent thought and labor, and none so certain to open dull eyes, unstop deaf ears, and make alive the whole man. If we but realized this, what a revolution would follow; what a blessing would come to all the people.—Dr. G. M. Twitchell, Maine.

THE FARMERS' ALLIANCE IN CRAWFORD CO., PA.

During the early nineties the Farmers' Alliance and Industrial Union sprang up like a mushroom all over the State of Pennsylvania. In the northwestern counties it died down nearly as quickly as it sprang into existence. At Black Ash and Town Hall will be found the only two left.

The picture of the Black Ash Alliance Hall shows what the members and community have done. The hall was begun in 1894. The members did the work and took stock in the hall. The money needed was raised by suppers. A few years ago the stock was purchased of the members by the organization, the building was reshingled and re-sided, and a good foundation and cellar placed under it. Public meetings of all kinds are held here. It is the social center of the community. Here the best methods of farming are discussed, as well as other topics of interest to farmers and

Saturday night.—William H. Miller, Crawford Co., Pa.

THE COUNTY FARM ADVISORS.

There are now approximately 25 counties in New York State that employ a "farm doctor" or county expert on farming. Other states are engaging the same sort of expert service for their farms and it may be safely prophesied that the county agricultural adviser, or call him what you may, has come to stay. But it is remarkable how slow some farmers are to accept the teaching of the farm expert. There is that old prejudice against "book farming" everywhere coming to light, and yet we believe the number of farmers who want to kick the darned crop expert off the premises, is growing smaller.

It is evident, however, that the expert must have something besides expert knowledge. He must know how to apply it and that requires tactfulness and the ability and willingness to look at the farmer's problems from the farmer's viewpoint. Unless an expert can have the fullest sympathy and co-operation of the farmer whom he would assist, it is difficult to see how he can assist him very much.

A story comes from an Illinois farm expert that illustrates the point we are trying to make. A young farmer who was working his father's farm asked the advice of the expert, but his father was not very enthusiastic over the mat-

Horticulture

HOT-BEDS AND COLD-FRAMES OF CONCRETE.

Many truckers and farmers prepare their hot beds in October. Structures of this type do not mean much in the way of first cost, but if built of wood their life is very short, thus involving in the long run considerable expense for repairs and renewals. The most economical and satisfactory type of hot-bed or cold-frame is made of concrete.

Locate the bed on the sunny, wind-protected side of a building. A four-sash bed is usually large enough except for commercial purposes. A standard hot-bed sash is 3 feet by 6 feet. Lay out the bed 6 feet 8 inches wide by 12 feet 10 inches long. The concrete walls are 6 inches thick. Dig the foundation trenches 2 feet 6 inches deep within the lines given above. Make forms of 1 inch lumber to carry the south (front) wall 6 inches and the north (back) wall 14 inches above ground level. Forms are not required below ground level. The tops of the end walls slope to the others. Before filling the forms with concrete, test the dimensions of the bed by means of the sash. See that the sash lap the forms 2 inches on all sides.

Mixing and Placing Concrete.—Mix the concrete mushy wet in the proportion of 1 bag of Portland cement to 2½ cubic feet of sand to 5 cubic feet of crushed rock, or 1 bag of cement to 5 cubic feet of bank-run gravel. Fill the forms without stopping for anything. Tie the walls together at the corners by laying in them old iron rods bent to right angles. While placing the concrete set 3-inch bolts about 2 feet apart to hold the wooden top-framing of the bed to the concrete; or make grooves in the top of the concrete for counter-sinking the sash to the level of the walls with an allowance of 1 inch for clearance. This can be done by temporarily imbedding in the concrete wooden strips of the necessary dimensions. During this operation, by means of blocks nailed to the strips, make provision for the center-bars described below. Remove the strips as soon as the concrete stiffens. Take down the forms after five days. The extra 2½ inches in length of the bed is allowance for the three center-bars between the sash. These sash-supports are of dressed 1-inch stuff, shaped like a capital "T" turned upside down. The length of the stem of the "T" is equal to the thickness of the sash and the top is 3 inches wide. Sufficient materials for the concrete will be supplied by 11 bags of Portland cement, 11 cubic yards of sand and 2½ cubic yards of crushed rock; or 14 bags of cement and 2½ yards of pit gravel at a cost of \$10.00.

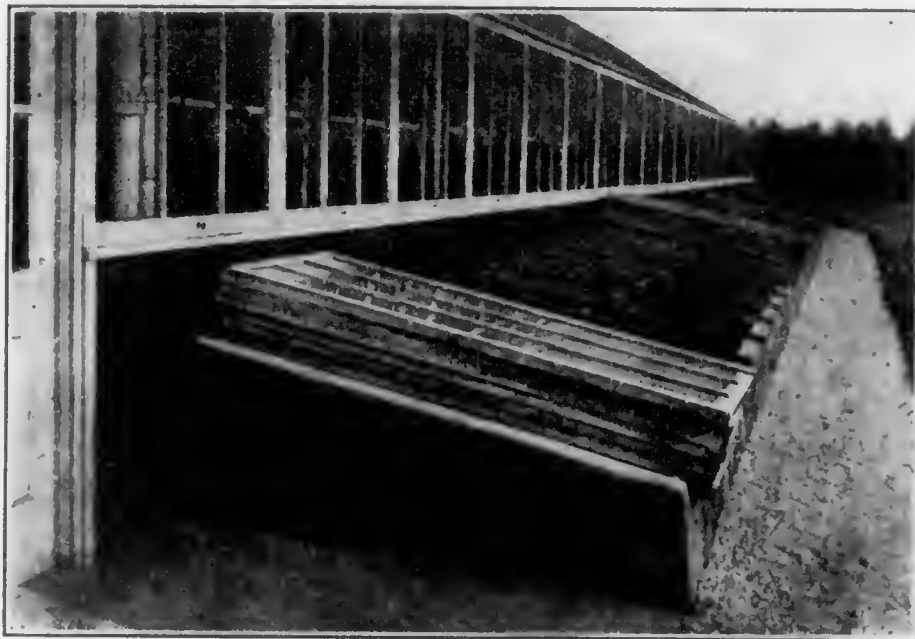
Preparation and Care of the Hot Bed.—If the bed is to be used as a cold frame, it is finished when covered with glass. For a hot bed, dig out the dirt to the depth of 2 feet, tramp in 18 inches of fresh horse manure well mixed with leaves or bedding and cover it with 4 to 8 inches of rich soil. Bank the excavated earth around the outside of the bed. Put the sash in place, hang a thermometer on the inside and allow the bed to heat up. After a couple of days, when the temperature has dropped to 85 or 90 degrees, planting may be safely done. Seed catalogues contain valuable information as to the length of time necessary to produce the different kinds of plants.

During the midday, in bright weather, the bed will become too hot and must be ventilated for a short period by raising the sash on the side away from the wind. Water the plants in the morning only and ventilate later to remove the moisture from the foliage. On winter nights it will often be necessary to

cover the bed with old carpets and boards. It is a genuine pleasure to grow winter vegetables and flowers for home use. If the supply exceed the needs, there is always a profitable market for such products.

SELF STERILE FRUITS.

Continued in-breeding of animals is usually productive of weakness and desirable qualities. Sometimes the offspring of closely in-bred animals fail to breed at all. The same seems to be true of many plants and especially so of fruits. Most plants permit of a closer



WELL LOCATED CONCRETE HOT-BED.

in-breeding than do animals; that is, the same plant produces both the male and female elements and usually these are produced in the same flower. A study of these flowers, however, shows that in many cases nature so arranges the parts that self-pollination is impossible. In some other cases where self-pollination is mechanically possible the pollen is incapable of fertilizing the pistil even if placed upon it artificially. This is not only true of pollen from the same blossom, but of pollen from other blossoms on the same tree or on other trees of the same variety.

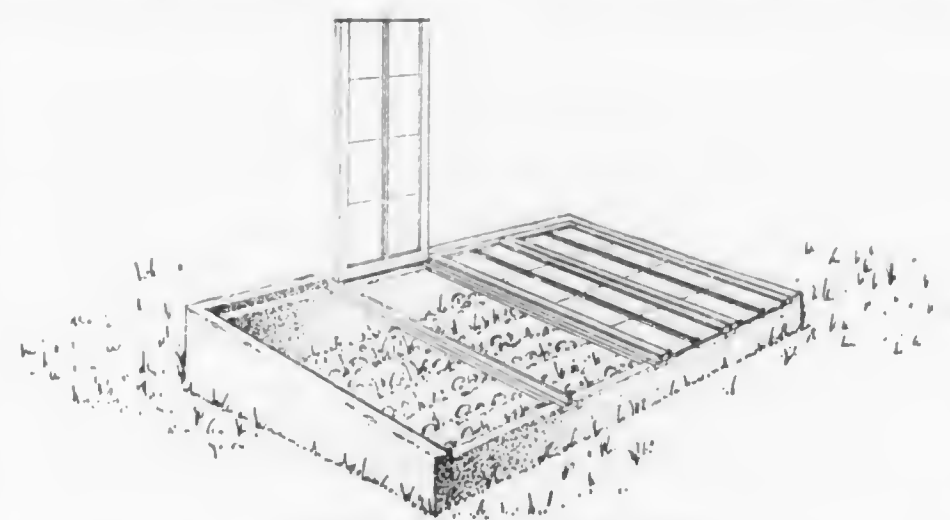
It is difficult to conceive why this is true of some plants and even some varieties of the same kinds of plants and not of others, but it appears to be so. It has been quite clearly demonstrated, moreover, that even plants which are naturally self-pollinated, such as wheat,

more or less self-fertile in one section of the country are self-sterile in other parts. The writer has gathered together from various sources a list of commercial varieties that have been found to be more or less self-sterile. The intending planter might do well to consult this list and also to remember that with all varieties there is a tendency to bear more regularly and satisfactorily in mixed plantings than in solid blocks.

Varieties More or Less Self-Sterile.

Apples.—Arkansas (Mammoth Black Twig), Bellflower, Chenango, Fallawater, Gravenstein, Gano, Jonathan, King, Maiden Blush, Northern Spy, Rome Beauty, Rhode Island Greening, Roxbury, Stayman, Tolman Sweet, Twenty Ounce, Wealthy, Winesap, York Imperial.

Pears.—Angouleme, Anjou, Bartlett,



COLD-FRAME GROOVED FOR SASH.

produce stronger and more virile progeny when cross-pollinated.

Most fruits are propagated vegetatively; that is, by means of buds, cuttings or scions instead of from seeds, so that we are not vitally concerned with the seedling progeny of our fruit plants. On the other hand the fruit itself is the seed and the fleshy part surrounding the seed so that we are vitally interested in the attempt of the tree to propagate itself by means of seeds.

The practical import of this discussion is this: If fruits have a lesser tendency to reproduce themselves and therefore set less fruit when self-pollinated than when cross-pollinated,

Claireau, Clapp (favorite), Howell, Kieffer, Sheldon, Winter Nellis.

Plums.—Wild Goose and others of the same type, Fellenburg, Coo Golden Crop, Marianna, Satsuma.

Peaches.—Most varieties of peaches seem to be self-sterile.

Cherries.—But little is known as to the pollination of this fruit. Practically all the sour varieties are apparently capable of self-sterilization. There is some evidence that the sweet varieties do better when cross-pollinated.

Grapes.—Brighton, Salem and Barry are about the only clearly self-sterile varieties of any special importance.

Strawberries.—Strawberries differ from most other fruits in that some

varieties bear no pollen. Such varieties must, of course, be pollinated by insects with pollen from other varieties. Varieties producing little or no pollen are popularly known as imperfect or pistillate varieties. The following is a list of commonly planted imperfect sorts: Babach, Crescent, Enormous, Fendall, Greenville, Haverland, Sample, Virginia, Warfield.—W. J. Wright, New York State School of Agriculture, Alfred, N. Y.

SAVING SEED FOR NEXT YEAR'S GARDEN.

In this age it seems doubtful whether the average farmer could be taught anything new regarding saving seeds, yet the experts claim that half the failure in gardens as well as in the fields are due to poor seed which in turn is due to faulty selection or failure to select at all.

The United States Department of Agriculture is putting out what is known as "School Lessons on Corn." One of these valuable books should be in the hands of every rural teacher, where the farm boys and girls attend school. The future farmer should learn all about corn under these heads: "Kinds of corn, location of cobs in the kernels, numbers of rows on ear, where to locate the embryo, the embryo root, the stamens, the horny gluten, the germ and the structure and composition of not only the ear as a whole, but the kernel as a part." All this may be taught by a teacher who has in her possession one of these books, and who will ask the boys to bring an ear of corn to school. It may surprise here, too, when she finds how many know nothing about corn except that it grows in the field. How many boys know anything about the distribution of corn roots in the ground and how cultivation affects these roots? How many men can take up a handful of earth and say off hand whether that soil will grow fine corn. How many can pick out the best seed at a glance, and then tell why it is the best?

The seed saving time is close at hand, and every man should know everything about not only corn seed, but about the other grains he and his neighbors plant. He should know all about the insects and birds that live in his corn, he should know all about the corn smut, and other fungi, the corn root worms, how much it costs to plant, to take care of and to harvest his fields—I refer to the young or prospective farmer, the young man who knows the value of smaller farms well tilled, for the big farmer must know even more about it. Ask the farmer boy what he knows about corn? Give him this problem if he is 19 or 20 years old: "When you sell \$10 worth of corn from the farm you sell \$3.78 worth of fertilizer; when you sell \$10 worth of cattle you sell \$1.18 worth of fertilizer. Which would be more profitable, to sell the corn or to feed it to the cattle and sell the cattle? Which method of farming would keep the land in good condition longer?"

Any man who lives on a farm should know the way to test out his seeds and he should be able to teach his boys the value of all grains on the farm, to the land, as well as on the market.

Whence came the name corn? What is there in history about it? Why those questions? Simply to get the young boys to think about corn. To get them to studying corn in all its stages of life. The writer saw some corn growing in a pot that came from a tomb where it had lain no body knows how long. Thousands of years, the life germ retained its vigor—in a tomb! And when given the necessary light, warmth and moisture it grew in another country, and it was said it bore small ears of bluish corn very sweet and full of nutrition. Interesting! There is nothing uninteresting!

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ing! The commonest weeds have a value when understood, and studied. The day of specializing is at hand and when a boy expects to become a farmer he will learn what is useful to know on the farm first, and the other things afterward.

Saving the flower seeds, and the garden seeds should be taught the young children. Teach them to select the finest, plumpest and best developed ripened seeds. Teach them about the soil value, and rotation in planting. Have them plan and plant a garden all their own next year. Teach them this fall, how to select seed potatoes, how many eyes to plant and how to cut the seed potato; the value of a change of seed from one state to another. Do they know that the seed grown in Vermont gave a larger yield in Maryland than in Vermont, and why?

There is money in onions! Why should the farmer boy know all about the growing of onions, their sets and seed? Because he will raise onions either for the market or for his own use and to grow good crops one must know first, about soil, then seed, and next cul-



REPP BROTHERS' STORAGE AND ICE PLANT.

tivation. Many of the large growers of all kinds of crops are now growing their own seed. There is a reason for this and everyone should think of these things. Some farmers go into the market and buy the best mother bulbs in onions, and from these set and cultivate and produce the splendid seed that brings big results. They see the production, as it really is, not as it is in pictures. They know how to grow the plant and obtain the seed. By personal investigation they are growing more wise, more independent, and they at the same time are better able to teach others what they have learned. They know all about the care of seed bulbs during the winter; about the soils adapted to onion growing; about the time and manner of taking the seed; not to mention cultivation, preparation of soil and fertilizing.

When a man succeeds today, there is a mighty reason behind his success, and in nearly all cases you will find that reason is that the man knows his business down to the last item. He thinks about his business, not as a drudgery, and a trouble, but as a pleasure and an education. There is nothing small, in all the world!—Harriette L. Lockwood, Philadelphia Co., Pa.

A COLD STORAGE AND ICE HOUSE.

Some individuals seem to scent an opportunity from a distance and to be ready to embrace it before it passes them by. To this type belong the Repp Brothers, Albert, Joseph and Charles, of Glassboro, N. J. These men, who own one of the largest and best fruit orchards in New Jersey are always on the alert for some new kind, which, by reason of its qualifications as a time, labor or expense saver or as a profit

maker, is entitled to a trial. When convinced that the motor truck belonged in this class, the Repps lost no time in purchasing one and later a second.

One of the biggest assets they have on their land is an ice and cold storage house. Like the auto truck, one has not sufficed to satisfy their super-sensitive hump of utility and progressiveness, and another house is now in course of erection. This house is to be larger than the old one and is to be of brick instead of wood.

The illustration shows the first house erected by the Repp brothers. This plant is 60 by 150 feet and has a capacity of 10,000 barrels. The new plant is to be 75 by 150 feet and is to have a capacity of 25,000 barrels.

The old plant is cooled by the ammonia cooling system. Fruit may be stored here and kept any reasonable length of time. Mr. Charles Repp, who is in charge of the storage and ice house, informs us that the Repp products are taken care of first in the matter of storage, and any outside products have second choice. Fruits in summer and such produce as potatoes in winter

putting such rubbish in piles in spaces between trees is a bad practice, since such piles furnish a good home for the vermin, from whence they will soon find their way to trees. I have known them to follow along a cornstalk or a fallen bean pole under the snow to an apple tree and bark it.

I once pastured an orchard of clover soil with sheep to see what would result. Apparently the mice did not like sheep and soon left.

Rabbits can be repelled by the use of the above grease or by spraying the trunks with lime and sulphur wash. Blood rubbed on the tree is also a repellent to the rabbit. It pays to keep the brush cleaned up in the orchard and along the fences.—D. H. Watts, Clearfield Co., Pa.

STIMULATING FRUIT TREES ABNORMALLY.

An item in a local paper may lead, in some instances, to the damage of fruit trees, and is at least a good illustration of how easily an honest observation may prove faulty. The heading referred to is an alluring one relating to the alleged discovery by some farmer of how to double his fruit crop.

The method, gained wholly by accident, is thru the destruction of some of the foliage in September. The man burned some brush near his orchard during the month and accidentally scorched the foliage of some of his trees, destroying it utterly. What was his surprise to see the tree sending out new leaves and flower buds. And so he comes generously to the front with his conclusions that it is easy to double the apple crop.

Mere facts bear out his statement; but a second glance at the habits of trees and shrubs should not only speedily dispel the illusion but sound a warning note regarding so unnatural a practice. A few years ago it was quite the fashion for housewives to pick all the leaves from the lilac bush on the second day of August, and thus secure a crop of autumn flowers. But it proved later that the bushes not only refused to blossom the next spring, but that this treatment was debilitating to the bush.

The fact is, all deciduous trees and woody, spring blooming shrubs form the flower buds in the late summer of the previous year. If the foliage is destroyed, nature strives to replace the loss by the only means in her power—a drafting upon the embryonic buds which should have been latent until the following spring. This is done at the expense of the next year's production, and of the plant's energy. The man who wants apple blossoms in autumn may gain them by this method; but as a money-maker it should certainly not be encouraged.—Bessie L. Putnam, Crawford Co., Pa.

Commercial Fertilizers for Strawberries.—Missouri Bulletin No. 113, issued from Columbia, Mo., besides detailing various fertilizer experiment with strawberries goes into the merits of various culture methods and enumerates varieties and their values. Strawberry growers may find some suggestions from this bulletin.

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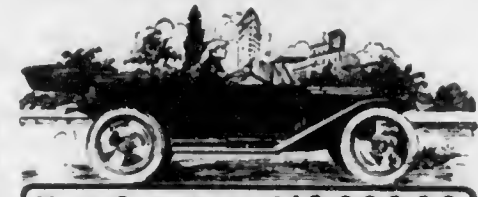


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Poultry

SOME SUGGESTIONS TO THE SUBURBAN POULTRYMAN.

There are many farmers living near large towns, or in the suburbs of great cities, who give their energies to dairying, raising early vegetables, or fruit and berry growing on a very few acres of ground, who could greatly increase the financial returns from this small place by wisely combining the poultry business with their present activities. The average farmer at a distance from town, whose chickens have free range to a 10-acre field, pasture or woodlot, hardly realizes how gentle, tractable and easily managed a yard full of chickens are when they have always been accustomed to narrow quarters. They are better in disposition and gentler, in cramped quarters, than if they range over a large field, and do not come in close contact with their owner. The farmer's chickens are wilder than those belonging to the suburban poultryman.

Chickens kept in small enclosed yards opening into good, well-lighted roosting houses and covered dust pens will be just as healthy if they are compelled to do a good deal of scratching for some of their food, as if they ranged over a 10-acre field. Two hundred hens can be kept in as healthy condition in a clean, open scratching yard 40 feet square as in a 10-acre field, and they will be just as well satisfied as in the field, provided they have never known any other quarters. It is amazing how safely chickens remain in a small pen with low wire netting around it if they have never been used to larger quarters. Their dependence on the keeper for food gives them better dispositions and makes them easier to handle. Such chickens should have plenty of green food in winter as well as summer; tender, raw vegetable and fruit peelings, turnips, carrots, potatoes, apples and the outer leaves and stalks of cabbage and celery, which keeps them in good health, as it keeps their digestion good.

The man who has a "knack," or talent for chicken raising can generally demonstrate this fact better on a small suburban place than on a large farm at a distance from the market, because the suburbanite comes in closer touch with his chickens, and has a better chance to study their natures. No man should try to raise chickens unless he is good natured. The good natured man who goes singing or whistling thru his chicken yard, who carries a handful of corn in his pocket to throw them occasionally, will usually have contented, healthy laying hens.

No poultryman should branch out into chicken raising on a large scale, build expensive, fancy houses and go in debt for incubators, brooders and the like until he has demonstrated that he is adapted for the business by having made a success of it on a small scale; and the suburban dairyman, gardener or strawberry grower can make a study of the details of the business to better advantage than the farmer at a distance from town, to whom chicken raising is a somewhat unimportant side issue, incidental to his other farm activities.

The suburbanite is closer to the market than the farmer living six or eight miles from a shipping point. He can therefore watch the market and ship when the price is good. If he lives on the outskirts of a city or large town with good hotels and smart restaurants he has a good local market, and by keeping in good of his chickens in fattening pens all the time he is ready at a minute's notice to supply a customer with a coop of fine fat hens or juicy friers. Such a poultryman should have half a

dozen or more fattening pens, each pen full of chickens placed therein on the same day, so that all those in a particular pen will be equally fat on a particular day. Then if a big hotel in the city needs two or three dozen fat hens on a certain day the suburban poultryman is "Johnny on the spot" to supply them at short notice.

The dairyman who sells cream, and who has much skim milk to dispose of, cannot do better than feed some of it to chickens, especially those in fattening pens. Curdled milk or buttermilk is also very fine for chickens, either those fattening in pens or young chickens, broilers and laying hens. With a good local market on which the poultryman may depend at any time he has a dozen fat chickens to sell, he can afford to feed them scientifically; his broilers in the open scratching pens on whole grain, corn, wheat, barley or oats, and his fattening hens and roosters in the coops on



BEST INDIVIDUAL BIRD IN EGG LAYING CONTEST. Has record of 200 eggs in 260 days; 14 eggs in first 14 days in August and 7 in last week in August.

boiled chops, mixed with some cheap grease, and with a little cheap brown sugar added, just enough to make it moderately sweet, as sweet food is all ways very fattening.

With some skim milk added to this ration it is an ideal food for fattening chickens cooped up in dark pens where they do not get much exercise, and therefore keep still, as tho it were all ways night and roosting time. Such chickens need easily digested food, that which is capable of being quickly assimilated, thus hurrying the fattening process. These fattening coops should have old blankets or pieces of carpet over them to keep out the light. Chickens in dark coops take very little exercise, and so do not work off their fat as fast as it is put on. This boiled food should be comfortably warm, about blood heat, for the warmth increases the rate at which the chickens put on flesh and fat. Their stomachs begin to assimilate it as soon as it is taken into the system, while cold mash or corn meal dough must first be raised to the temperature of the stomach before the digestive functions can begin to use it.

The suburban poultryman will soon learn just how long it pays to feed a certain breed on this nutritious ration, whether 10, 12 or 14 days; for when the chicken has taken on all the weight it is capable of carrying on its bones it is ready to sell. It doesn't pay to feed it any longer, and with a ready local market the poultryman will be able to sell his fine milk-fed chickens at exactly the time they should be sold, when no more weight can be given them by further feeding. With 8 or 10 pens full of fattening chickens, say two dozen to the pen, some of them having been cooped up 12 days, others 10 days, others 8 days and so on, the poultryman is prepared for making a sale at fancy prices every day, without selling any chickens which have not been fattening from 10 to 14 days.

The breeder of fancy chickens, who depends for financial returns on the sale of eggs for hatching, or the sale of young chicks or of young cockerels, is in position to make sales and deliveries to much better advantage in the suburbs of a city, even if his chicken yard consists of but one city lot. The shipping of newly hatched chicks is a safer process than many people suppose, where the chicken raiser is near an express office. It is really safer to hatch your young chickens under careful hens and ship them by express than to sell the eggs, for the purchaser may not put them under a careful hen, and may therefore not hatch them all out.

Chicks just hatched require but little food for the first two or three days, as they eat the yolk of the egg in which they form, which gives them their bright, yellow color. It is the absorbing of so much of the yolk of the egg that increases the size of the chick within the shell, and enables it to burst the shell and get out, so they may be shipped a thousand miles in an express car, if the temperature of the car is right, without danger to the chicks, and without needing food or water. Then if put into a properly warmed brooder at the end of the journey they will come thru all right, and give better returns to the purchaser than if he had bought a setting of eggs and tried to hatch them out under his own hens, or in an incubator.

The breeder of fancy chickens, or any kind of chickens, need not feel at a disadvantage because he has only one or two city lots, provided he has the knack of "getting along with chickens." The secret of success to such a man is to be kind to his fowls and make them scratch in hay or dry leaves for most of their whole grain until they are ready to go into the fattening pens. He need not be hindered on account of the small area of ground he can spare for his yard or scratching pen.—I. H. Motes, St. Louis, Mo.

ABOUT THE POULTRY YARD.

Exercise is as strongly essential to the production of eggs as is regular feeding, and when the weather gets cooler a straw stack handy for birds to scratch out the chance grain from its sides is one fine help to getting that exercise. There is nothing like having a pile of straw or corn blades in the scratching shed for the hens to tear down.

When the farmer sells his hogs and cattle he fattens them before selling time. To fatten his chickens before selling time seldom enters his mind. It is just as bad for him to poke out a lean fowl on a customer as a lean hog. One fat chicken is worth three poor ones and has just as much edible meat on it. Some farmers try to feed up the young poultry on whole corn. You cannot fatten young poultry on whole grain unless you feed until far into the win-

ter. Grind the grain into a flour, mix with water or good milk-buttermilk or skim, and you can fill out a lean chicken in a couple of weeks.

Wheat makes hens lay and is an excellent molting ration if mixed with corn, but you cannot feed it too long just alone. Hens fed wheat continually develop an ugly intestinal trouble that will finally put them clear out of business. Better trust to all corn with some green stuff than all wheat.

Some poultry keepers consider that a small amount of beef scrap is good, a large amount is better. To give a dose large amounts of beef scrap or even any kind of meat scrap is to court disaster in the poultry yard. A pound of meat scrap to 20 hens is enough at a meal if the meat scrap be fresh or green, as it is called. You can give this amount if it be dry scrap to 16 hens. Meat scrap fed too heavily induces diarrhea finally. Worms of several kinds attack the intestines of heavily meat-fed fowls, and worse, and more incurable, limber neck may set in.

So many people on the farms will argue warmly that to take male birds from the flock shuts off laying for the hens. To one who has made long experiment in this direction this argument has not one real fact to back it up. The lay better without him around, especially the young pullets. The only thing can say for his presence in the flock is and I notice this more in the small nervous breeds close yet in nature to the wild stock, that, if penned, his presence seems, in cases, to cut short their getting into mischief—such as feather pulling, etc.—Ida M. Shepler, Indiana.

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Live Stock

THE MANAGEMENT OF THE FEEDING CALVES.

The average farmer who keeps a few cows and does not make a specialty of dairying usually brings up his calves in a rather indifferent manner, keeping them until nearly, or quite two years old, in the same way, and then selling them for less than could have been obtained for them at one year of age if they had been given a little extra feed and care from the start. There is little doubt in the writer's mind that by mixing a little good judgment with care in the feeding of the fairly well-bred calves which are to be found upon the average farm, or which at least could be bred by the average farmer, they could be made as good at one year of age as the calves which can be bought in the open market after one or two shippings, and consequent shrinking.

That these can be made into baby beef under ordinary farm conditions at a profit, has been demonstrated by baby beef experiments. In fact, we believe that we have raised skip milk calves which would have made just as

But it is not in this matter of feeding the supplementary feed alone that judgment needs to be used by the feeder. Many people give the calves just about the same amount of skim milk from the time they are a few weeks old until they are weaned from it entirely, and more often than otherwise the calves are running in a lot or yard where there is no water supply and where the pasture is constantly getting dryer and poorer in the average season. This kind of treatment cannot but have the effect of stunting the calves somewhat, even if they are fairly well provided for in the way of supplementary grain feed.

Then there are the important matters of protection from heat and flies, which need to be looked after if the best results are to be obtained. The calves will do far better if kept in the barn all the time and fed plenty of clover hay than they will if run in the best of pasture without any protection from the excessive heat of the sun or the tormenting flies. In case it can be done, a darkened shed should be provided for them.

Given favorable conditions and intelligent attention along the lines noted and similar crowding for the balance of the year, and the average calf with a



DORSET RAM, CHAMPION AT SYRACUSE AND TRENTON FAIRS, 1913. Owned by Tranquility Farms, N. J.

good foundation for baby beef as selected calves do. But if these good results are to be gotten, the calves must be kept growing every moment from the time they are dropped until they are finished for market, and this can only be done by the regular feeding of the right kind of feeds in the right quantities.

Just how this could be done is something to which we fear that the average farmer gives little thought. The ordinary way is to run the calves in the orchard or in some little lot near the house, and to feed them just whatever skim milk may be available throughout the season. During the early part of the season, when the pasture is good and before flies become too troublesome, this will do very well. But the calves need some supplementary feed to take the place of the fat which has been extracted from the milk, which is only a perfectly balanced food in the first place.

The different ways of supplying this deficiency have been discussed many times, but it will not be amiss to repeat that flaxseed meal at first and later oil meal and corn meal in turn until the calf is old enough to eat a considerable grain ration, are very satisfactory, after which time a more bulky, but well balanced ration may be substituted as desired. A reasonable amount of skill and constant attention will, however, be needed in feeding this ration so as not to overdo the matter and get the calves off feed or get them to scouring.

preponderance of beef blood will weigh as many pounds and be worth more money at one year old as the usual run of young cattle through the state are at twice that age. Nor will this extra care and attention involve any great amount of additional work. The calves have to be fed anyway, and by a proper arrangement of the conveniences for giving the extra care and feed it can be given about as quickly and easily. In any event, the 1,000 pound yearling will not have taken as much care nor as much feed as the 1,000 pound two-year-old, and the net returns will not only be quicker but vastly greater in the aggregate.

The time has come when the live stock business, whether carried on as a specialty or as a side line, must be carried on rationally in order to make it add materially to the revenue from the farm. The farmer who thinks that he cannot afford to feed his young stock as well as his neighbor or as the experimenter feeds his, must get out of the rut if he would succeed in his business, and must come to a realization of the fact that he cannot afford to feed them in any manner but the very best. When the farmers of the East come to a general realization of this fact there will be a revolution in the cattle industry, and the spectacle of a lot of scrawny, half-fed cattle being annually dumped upon the market at a loss to the feeder and to the demoralization of the trade will have become a thing of the past.—J. W. Montgomery Co., Pa.



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Doctor Veterinary
Science

Hens can't lay eggs

and grow feathers at the same time

Feather growing stops all the nutrition of a hen's ration. That's why hens practically stop laying eggs when moulting starts. Given their own time to moult, hens take about 100 days within which to shed the old feathers and grow new ones. But that his your pocketbook hard, because egg prices are away up high in October, November and December. Change your methods to mine. I force my hens to moult early in fall, make them moult quickly and get them back laying again before winter sets in. To do this I rely absolutely on

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My Pan-A-CE-A is a tonic—it makes poultry healthy, makes hens lay, helps chicks grow and shortens moulting period. The result of my 25 years' experience as a doctor of medicine, doctor of veterinary science and successful poultry raiser, is instantly printed on every package and certified to by the U. S. Dispensary and Medical Colleges. Read this money-back guarantee. You buy Dr. Hess Poultry Pan-A-CE-A of your dealer and feed it according to directions. If it does not do as I claim—if it does not pay you and pay you well, I have authorized your dealer to refund your money. 1 lb. box, 80c; 3 lb. box, \$2.50; 5 lb. box, \$4.00. Except in Canada and the far West. Never sold by peddlers. Send 2c stamp for my brand-new poultry book—it's a stunner.

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Philadelphia, Pa., October 25, 1913.

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Surely this must help you to realize that it is to your interest to buy an article that is advertised to you, whether it is sold to you direct by the manufacturer or through the local dealer. The idea is that when you buy an advertised article you have a double guarantee behind it—that of the dealer who sold it to you, and of the manufacturer who sold it to the dealer. Or, when you buy it direct from the manufacturer you have the reliability of our advertisers.

You pay no more for advertised merchandise than for unknown brands, and you are more certain of being pleased. As a matter of fact, the advertised brand is usually better value for the money than the brand that is not advertised because there is a moral responsibility placed upon the manufacturer who advertises. He knows that as a strictly business proposition, it is necessary for him to deliver the goods that are satisfactory, otherwise his house gets a bad reputation.

On the other hand, the manufacturer who sells unknown brands has no moral responsibility because it is easy for him to put up his merchandise under different brands and the purchaser is the one who is often deceived.

Just remember that the manufacturer who takes the trouble to tell you about his goods is much more likely to sell you 100 percent value than the manufacturer who has extended you no inducement. Those who are asking for your business, use the columns of The Pennsylvania Farmer. Insist on getting the double protection we have told you about by giving preference to these advertised goods.

Road Costs

A contributor to the Public Ledger gives the following figures on cost of building so-called "permanent" roads and the experience in New York State for consideration on the merits of the proposed road bond amendment in this State. The bond advocates have shown small inclination to discuss figures in this matter. They do not attempt to show what they expect to do with the \$50,000,000, how much road will likely be built, the probable cost of those roads, or how they expect to finance further building or maintain those already built when the first \$50,000,000 is exhausted. The prudent business man determines these features before he contracts a loan. Why should not the State? We recommend the following discussion of the business side of the question to the careful consideration of our readers:

"It is the intention, of course, to build the best and most permanent roads for State roads and those which will cost the least to keep in repair under heavy traffic. The water-bound Macadam, the tarvia, asphalt and roads of this kind have not to date been very satisfactory.

"In Kansas City and on the roads radiating from Detroit, the concrete road has so far given the greatest satisfaction, both as to first cost and for cost of maintenance. These roads cost from \$10,000 to \$15,000 per mile. The average cost being about \$13,000 per mile.

"Pennsylvania has taken, under the Sprout road law, 8000 miles of our highways, which, with two since added, make 10,000 miles taken for State highways. The highways built by the State Highway Department in Pennsylvania have cost about \$15,000 per mile. If, however, we take the cost of the Detroit roads—\$13,000 per mile—our \$50,000,000 would build only 3500 miles of road. It will take \$130,000,000 to build our 10,000 miles if every dollar went on the roads. But this is only the initial cost. The interest on \$50,000,000 at 4 per cent. is \$2,000,000 a year, and the sinking fund \$1,000,000. We therefore have to appropriate \$3,000,000 per year for interest and sinking fund, or \$150,000,000 by the time the bonds are paid off. Our 10,000 miles of State roads will cost \$650,000,000 by the time the bonds sold to build them are paid off, or \$650,000 per mile.

"New York has \$100,000,000 of road bonds. Her interest and sinking fund amounts to \$6,000,000 per year. Can more than \$6,000,000 be spent legitimately in any one year for building roads? It would be better to make an appropriation of \$6,000,000 per year for roads than to spend it for interest and sinking fund on money spent for roads long ago worn out. If the money was not being properly spent we would then have a chance to withhold the appropriation and reorganize the road department.

"The temptation to extravagance, when so large a sum as \$50,000,000 is put into the hands of any administration, seems too strong to be resisted. Those who are in, want to spend as much of it as possible before they are out. New York spent her first \$50,000,000 in five years and has only about 2000 miles to show for it. Many of the roads built with this money are already worn out and have to be, in a large measure, rebuilt. The present Highway Commissioner of New York is now getting up new specifications for roads which will be more lasting than those built with the first \$50,000,000. The interest is going on, however, whether the roads are there or not. How much better it would be to

pay as we go and as we can afford to. By all means vote against the bond issue."

Beef Cattle Decline.

A recent report of the Department of Commerce shows that the country's exports of beef and beef cattle have fallen from \$44,000,000 value in the eight months ending with August 1, 1904, to practically \$1,000,000 in the corresponding months of 1913. In the meantime the imports of cattle increased from 9,337 in the eight months of 1904 to 340,100 in the same period in 1913; and their value from \$181,145 in 1904 to \$5,031,842 in 1913. In other words, the United States has changed from a cattle exporting to a cattle importing country in the last ten years. The figures on dressed beef are equally striking. In 1904 the importations of beef were insufficient to justify their statement by months, and the total value of such imports for the year was but \$14,922. The single month of July in 1913 showed importations of beef to the value of \$56,993, and August to the value of \$89,204. The total for the present year promises to approach the million dollar mark. With the rush of cattle and beef products already indicated as a result of recent tariff changes, the decline in exports and increase in imports will be more rapid. The tendency in trade revealed by these figures is partial explanation of the high cost of living so far as meat products are concerned. It does not explain, however, why retail prices have increased faster and are so much higher relatively than prices paid the growers for live cattle. This explanation must be sought in a study of marketing systems and the influence of the so-called beef trust. The study of the cost of living always returns to the one subject of marketing and distribution.

Sulzer Impeachment.

The impeachment of William Sulzer and his removal from the office of Governor of New York are forceful demonstrations of the power and arrogance of a corrupt political machine. No one doubted the power of the Tammany organization to remove the ex-Governor if it dared to do so. The final act merely emphasizes the absolute control which the machine has over the politics of the State and the indifference it feels towards the voters of the State in the exercise of such control. Mr. Sulzer was impeached on the technical grounds of failing to make returns for all money expended during his campaign, and an attempt to suppress evidence against himself. These charges were apparently supported by good and sufficient evidence, and fully warranted the verdict returned. Insofar as these specific charges are concerned there can be no defense offered for Mr. Sulzer, except the empty excuse that he was probably no more guilty than many others who have been permitted to hold office and retire with honor. But these specific charges were of little consequence in the real issue. All the State knows that Sulzer was removed because he saw fit to oppose the wishes of Murphy, head of the Tammany organization, in certain appointments, and because of his determination to get a primary law that would give the real advantage of a direct primary. No amount of legal verbiage can hide the fact that the entire proceeding was instigated and controlled by Boss Murphy, not in the interests of the State or for the purification of politics, but in the interest and for the personal satisfaction of the Tammany

boss, and as an example of the power of the Tammany organization. What the voters of the State will do remains to be seen. The blot on Sulzer is no blacker than that on Tammany, and the future of each is in the hands of the people.

The Junior Gunpowder Agricultural Club.

Maryland, celebrated its thirty-ninth anniversary on October 4. This is one of the strong farmers' clubs of the State and has been closely identified with the agricultural progress in soil and crop improvement as well as community development during the past decade. It has been maintained as a social as well as a professional organization. Meetings are held at the homes of the various members, and inspection of the host's farm and buildings and discussion of methods and results as observed in such inspection are regular features of such meetings. In this way the membership is drawn into a more intimate acquaintance with each other and the general farm practice of all of its members. A healthy, enjoyable social fellowship is maintained and the general standard of farming of the community is influenced by the enterprise of every member of the club. It would seem that the club has nearly outgrown its name as a junior organization at its dignified age of 39. But clubs, like individuals, are only as old as they feel, and it is to be hoped that the experience and training of the past 39 years have merely strengthened and concentrated the vigor of its effort for many more years of useful activity. There is need of such organizations in every country community.

NEW YORK HIGHWAY OFFICIALS INDICTED.

Another chapter in the highway graft that has characterized the construction of our State highways is being written. On October 16 three indictments were returned by the Grand Jury of Erie county against a contractor, a highway inspector and a division engineer. The first named is charged with grand larceny on two counts, and is alleged to have collected \$4649 from the State on an alleged false claim for workmen on the Clinton street road, Buffalo. The second is charged with subornation of perjury in having an inspector swear to an alleged false affidavit regarding material furnished for road work. The last is charged with neglect of official duty in failing to make an official final inspection of work done by the contractor last July. What the Grand Jury had to say in its special report on the case will make good reading for people in Pennsylvania who think that the expenditure of the proceeds from a \$50,000,000 bond issue has no temptations for ordinary mortals. The jury's report says, among other things, "The whole system of highway administration seems to have been designed to benefit those who had the favor of the administration and to make it easy to cheat the State and avoid the consequences." The making of supplementary contracts that relieve contractors of conditions called for in the original contract was condemned by the jury. The report continues: "Personal friendship rather than ability and experience seems to have been the necessary element to secure employment under the administration. In order to favor particular men, titles were created by which men inexperienced in engineering could be appointed, under the guise of the law, to discharge duties

that called for experienced engineers to perform, and they received the same pay that experienced engineers would have received for the work." It is charged that personal friendship in the letting of supplementary contracts increased the cost of the Clinton road about \$12,000.

STATE CAPITAL NEWS

Payment Legal—It is probable that within the next week some of the disputes over payment of money carried by the general appropriation will be on a fair way to settlement, and that the doubts of the auditor-general as to the validity of certain items in the big bill will be allayed. The chief concern of the people in rural communities in this extensive questioning is over the reimbursement of persons whose cattle were destroyed by agents of the State Live Stock Sanitary Board because of the presence of tuberculosis or other diseases. About \$47,000, appropriated last summer and approved in July, is still held up, and the money lying in bank because the auditor-general was not sure whether the item was one which could be considered as an "ordinary" expense of government. It is believed that the whole thing will be ended with a decision that the \$43,000 for reimbursement of farmers, and \$24,000 due to butchers is a proper item. It is also regarded as likely that the question whether the \$100,000 for reimbursing of counties for payments made to agricultural societies will also be declared by the attorney-general to be proper and perfectly safe to pay out without incurring the terrors of the specific appropriation act.

Grade Crossing Work—It is stated at the offices of the Public Service Commission that reports from one-sixths of the railroads of the State as to the number and character of grade crossings on their lines within Pennsylvania are on file, and that after January 1 steps to bring about a gradual reduction will begin. This is a mighty problem, as the crossings number thousands and to remove them means hundreds of millions. However, a start is to be made and the powers of the commission tested out in the courts, if necessary, to see how far the commonwealth can go. This is a question which has been carefully studied by the commissioners who have been informed by railroad officials that they will gladly lend cooperation in devising some plan to bring about good results for the people of the State.

Collection of Data—Arrangements have been made between the bureaus of statistics of the departments of agriculture and labor and industry for joint work in the compilation of agricultural statistics, with the results that valuable data will soon be ready for general information. Pennsylvania, although ranking high as in industrial commonwealth has never had a State census of farmers or production, the figures used heretofore being obtained from volunteers or through private effort. The new bureau of statistics has arranged for a complete list of farmers and farms, together with acreage, along the lines referred to in this letter, and this work is now being prosecuted with vigor. Every county having arranged to contribute data. The department of labor has now worked out a plan whereby the production and figures regarding labor will be handled by it in conjunction with the department of agriculture.

Medical Inspection Starts—The general work of medical inspection for this winter has been started in the fourth-class townships of the State. The first reports will soon be in hand. As yet the inspection is in limited districts, but there are indications that there will be rapid extension of the work. Appointment of inspectors have been made in over 50 counties, and the idea is to have all of the information in hand early in the coming year. The medical inspectors will follow up cases where children are suffering from defects, and by free medical advice will aid the youngsters to better health. In some districts teachers have undertaken physical culture as a voluntary course, the medical inspectors giving the benefit of advice.

More Co-operative Concerns—Since the first of the year fully a dozen co-operative concerns have filed their articles of association at the State Capitol, and entered upon business. This number is larger than ever known before and there has been a steady growth in the line of co-operative enterprise, according to statements made here by men who are in touch with agricultural communities. The bulk of the associations are for marketing purposes, but there are some which have agricultural buying and selling for their objects, especially in the purchase of supplies and machinery.

Anti-License Dispute—The filing, a few days ago, of the answer in the suit against the auditor-general over non-payment of income from automobile license registration opened a new angle, in that there was a denial by the attorneys for the fiscal officer that the motor vehicles now being licensed are under the acts of 1909 and 1911, and not under the new act of 1913 at all. The act of 1913 is the act which provides for registration of motor trucks, traction engines and trailers, and also allows the half-year license. It is contended that the new act does not become operative until January 1 next, and that consequently the money now being paid to remain in the Treasury until the legislature of 1915 can reappropriate it. This leaves the question whether the income received after January 1, 1914, can be legally paid for highway work without specific appropriation bills being passed by the next legislature still to be settled. The upshot will be that all of the money received from licensing of automobiles from April 1 until the next legislature meets will probably lie in the Treasury. This will mean just so much more taken away from improvement of roads and a worse mess than ever in the matter of improvement of highways.

Pollution of Streams—The State Department of Fisheries has declined to take notice of a wild-eyed declaration by a man caught polluting a stream by waste from a mill that the streams of the State are polluted by thousands of barnyards. The department has been getting after a large number of paper, tanning and dye stuff mills, whose waste products have killed fish by thousands, and this caused a ridiculous attempt at backfire. The department ignored the kick and prosecuted some more mill owners.

Driving Out Mutuals—Some mutual fire insurance companies located in some of the larger cities are having a hard time to convince State examiners that their business is sound. Lately several companies have been hauled into court because they did not pay their losses, and receivers will be named. The department officials say that there are some people whose crooked insurance deals are reflective upon many honestly-conducted mutual organizations, and that they intend to do some purging. The driving out of certain companies the official statements say, will help those which are

honestly conducted.—Hamilton, Harrisburg, Pa., October 20.

NEW JERSEY FARM NEWS.

Shows and Exhibits—The annual show of the Elberon Horticultural Society will be held in the Asbury Park Casino, October 27, 28 and 29. Many of the most famous amateur and professional gardeners in the country will exhibit the products of their skill. The annual exhibition of the results of the corn-growing contest conducted through the public schools of Morris county, will be held at Morristown, November 7 and 8. Besides corn, prizes have been offered for baking, canning, preserving and needlework. The schools of the country will be closed on the 7th. Committees have been appointed by the Pomona Grange and the Board of Agriculture of Sussex county, to act conjointly in regard to a county exhibit of fruit in December at the State exhibit in the Armory at Trenton.

Agriculture in Schools—The Board of Education of Caldwell, which is the centre of a noted dairy and market garden section, has decided to equip the high school to teach scientific agriculture. Among others there will be courses in soil chemistry and scientific breeding. At Millburn, the past summer there were 50 individual garden plots staked out for the school children in June, but when the summer class was organized in July the number of plots was increased to 150. This movement is spreading throughout the State. The claim is made that our farming lands are not receiving the treatment they should. This may be due partly to a lack of farm labor and partly to a lack of knowledge as to the best way to farm by the owners of the soil.

The Cranberry Crop—The cranberry crop of this State will be about 70,000 barrels, 30,000 less than normal. The late spring frosts probably damaged the crop to the extent of 20,000 barrels, while the scarcity of labor will leave another 10,000 barrels on the vines. This matter of labor is becoming serious, even though prices have advanced 50 per cent. for picking in the last three years. With this condition in a short crop year, the growers are seriously considering what would happen to their crops if they had a big yield and no more pickers. Some think that there is only one answer, the scorp. Scorp can be done for about one-half what it costs to pick the berries by hand, but there is quite a loss from the berries rattling off. These can be gathered, however, by sending a picker after the scorpers, at from 60 cents to \$1 a bushel. But few growers will hold their berries for the January market. Some insist that the best way to sell is to take the best price offered on the bogs; while others ship a few every week and thus get an average price for their berries the season through. Cranberries are now quoted at from \$5 to \$6 per barrel, \$1.50 to \$2 a crate.

The Tomato Crop—There have been no damaging frosts as yet, and the factories have been operating both night and day shifts in order to handle the immense crop of late tomatoes. The market has been overstocked, resulting in low prices to those who had not made early contracts with the canners. Some were obliged to sell for as little as \$6 per ton, while the contracted price has averaged around \$10. The appearance of a fungus parasite resulted in the blighting of thousands of acres of tomatoes, and the ravages have been so destructive a nature as to necessitate meetings of farmers in preparation for the saving of next year's crop.

Cover Crops—Potato growers have almost reached the conclusion that a mixture of cow peas and soy beans furnishes the best green crop to plow under in preparation for a potato crop the following spring. Those who sowed such a mixture late in the summer now have it growing fine and the vines two feet high. They should be plowed under before the frost strikes them. All not plowed under when frost comes, should be double disked into the soil. Such plants should not be withered by frost, their leaves blown away, and the dried stalk alone left to furnish a supply of humus in the soil.

Weather Conditions—Recent rains throughout the State have broken the drought which began early in the summer, and pasture fields are now green and flourishing. From present appearances, cattle will be able to pasture out until December. Alfalfa, a crop which naturally lives during a dry spell better than any other, shows that the rain was needed even by it. The third cutting will produce more fodder than the preceding two cuttings combined.—D. T. H.

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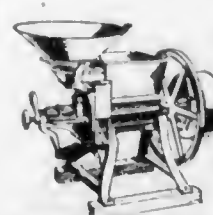
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Household

A HALLOWE'EN PARTY ON THE FARM.

Corn and Pumpkin Frolic.

"Some merry, friendly kintra folks, Together did convene To burn their nits, an' pou their stocks An' hand their Hallowe'en. Fu' blith that night."

—Burns.

Only the party I am going to tell about was held in the afternoon of October 31, instead of in the evening. It was a children's party and some of the little guests lived too far away to be able to come, even if it were held in the early evening.

The invitations, fifteen in all, were written on drawing paper cut in the shape of pumpkins and colored with school crayons. Every one was accepted and then in a great burst of enthusiasm the business of making the decorations and getting ready for the

The dining table was decorated with a pumpkin vine, made of an old clothes line wrapped with strips of green tissue paper, with pumpkin blossoms of yellow tissue paper and leaves of the green. This vine was arranged carelessly, leaving space enough for a great fruit basket with a handle made from a huge pumpkin. The inside was well cleaned out and the basket filled with apples, pears, and bananas. Cards with the names of the guests were made attractive by pictures of pumpkins, witches, broomsticks and black cats. Where there is no artist in the family these may be made by cutting pictures from old magazines and pasting them on neatly.

When the children were all assembled they went to the kitchen for their first Hallowe'en games, and began with the old-fashioned bobbing for apples. A tub half-full of water, with its surface covered with rosy apples, was tempting enough. By the time all had had their turn of kneeling down and trying to get one in his teeth, restraint and shyness had worn off, and the guests felt much at home.

There was roasting of chestnuts next.



IT IS SERIOUS BUSINESS MAKING A REAL SCARY JACK-O'-LANTERN.

party was begun. The children giving the party did most of the work.

Boys and girls together worked on pumpkins, making jack-o'-lanterns, for these were to furnish the illuminations. Twenty lanterns were gotten ready and were scattered thru the kitchen, dining room and sitting room. When the shades were drawn down at the windows and the candles lighted in the pumpkins, the effect was good. It gave you just a comfortable, "scary" feeling and made you think of "Riley's." "An' the goblins 'll git you if you don't watch out."

Ears of corn of the same length were selected, the husks drawn back and tied together and tacked over the windows and doors in the sitting room, making a pretty border decoration, the ears hanging down like pendants. The door frames and windows in the kitchen were adorned the same way, only here the gay colored ears of squaw corn made a more vivid contrast.

A few red ears of corn were found and these were placed the same way over the pictures in the dining room. Three or four cornstalks, whose brown and dried plumes were still good, were tied together with bows of green tissue paper and placed in each corner of this room.

Chestnuts were named and placed side by side on the hot kitchen range. If the parties named were fond of each other, the chestnuts stayed side by side. If not, the chestnuts would pop away from each other. So the superstition runs.

In the doorway between the kitchen and dining room a red apple, stuck full of shining pennies, was suspended. The pennies were only inserted in the apple far enough to hold, for the game was to see if you could get a penny out with your teeth while holding your hands behind your back.

Three bowls, one containing clear water, one containing soapy water and one empty, were placed on the table and each one, blindfolded, had to dip his fingers in one of the bowls. If he found the clear water, that meant a good helpmeet; the soapy water predicted a poor one, and the empty bowl none at all.

After these games had been played in the kitchen, the party went into the sitting room to finish the program, so that supper could be prepared in the kitchen. A large pumpkin had been cut out of yellow crepe paper and had been pasted on a sheet and fastened up at one side of the sitting room. Each one had to take his turn, blindfolded,

and, after having been turned around three times, tried to pin a green stem on this pumpkin. The result was ludicrous. One unlucky youth put his hand in the globe of gold fish which startled him so that he left the stem there, and consequently was voted the "consolation" prize, a Hallowe'en horn. The winner's prize was a pretty transparency showing an autumn scene.

As some of the children had to go quite a distance to their homes, a substantial early supper was served, consisting of chicken balls, mashed potatoes, stewed corn, pumpkin chips, doughnuts, squash pie and cocoa.

The chicken balls were made by stewing and mincing a chicken, removing all bone and gristle carefully. This minced meat was mixed with enough white sauce to make it hold together and be rolled into balls. These were dipped in beaten egg and then rolled in cracker crumbs and fried like meat balls.

The recipe for pumpkin chips is as follows: Cut up a pumpkin on the cabbage cutter, put on plenty of sugar and let this stand over night. The next morning pour off the syrup that has accumulated. Cut a lemon in thin slices and add to this syrup. Add the pumpkin and boil until this is tender. Lift out and let the syrup cook down thick. Then put pumpkin back and cook until pumpkin seems transparent. Cook very slowly so that slices of pumpkin will remain whole.

In making the squash pie, one cup of stemmed and strained squash, one-half cup of cream, one-half cup of milk, one egg, one-quarter cup of sugar, a pinch of salt, a dash of cinnamon, ginger and nutmeg were used for each pie.

Where a less substantial refreshment is desired, one may use minced chicken sandwiches, peanut butter sandwiches, iced sponge cake and cocoa. An especial additional treat would be home-made ice cream or orange ice.

After supper, the children tried their fortunes by sailing a tiny boat with a candle in it. The boat was made of the rind of half an orange. The pond was a shallow pan of water (a milk pan). On one edge of the pan a penny was placed. Opposite the penny was a pasteboard heart. Between these a gold ring was laid on the rim of the pan. Each one had to light the tiny candle in the boat, put it in the center of the pan, then gently stir the water. If the boat stopped near the penny and the gold ring, that meant marrying for money. If nearest the heart, that meant love would rule the home. If away from ring, heart and penny, that meant a wanderer's life would be the future fate.

This was the last of the games. The guests were then content to settle down around the fire—

"Wi' merry songs an' friendly cracks An' unco tales and funny jokes."

The beauty of this party was that both the children who gave the party and the children who came to the party had a good time, and after it was all over, the pumpkins were fed to the cows and the corn to the chickens, and they were glad of the party, too.—Nevada Davis Hitchcock.

Bakers' Bread.—One of the best labor-saving devices to my mind, is the baker who makes a big loaf of bread and seals it in a paraffine wrapper and sells it for 10 cents. We have to board all of our farm help, and if the "reign of the queen of the kitchen" is cut short for any reason, the first thing I do is to buy the bread. To my mind, my time is worth more than 10 cents an hour, and equipped as we are, I can't make that sum by making bread for farm hands.—Evelyn Harris.

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Grange

PENNSYLVANIA FARM COUNSELOR WORK

The Farm Counselor Work, under the supervision of the State Department of Agriculture, has been in operation since August 1. The ten counselors have been kept busy and are finding many new lines of farm interests to engage their attention. The scope of their work and the demands upon their service are well indicated by the following brief summary of reports at a recent meeting held at Harrisburg, in conference with their director, Hon. A. L. Martin:

Co-operation in Farming—E. B. Dorsett reported that his work had taken him into many different counties and that he had addressed several large public meetings on the subject of "Co-operative Buying and Selling." He found the farmers eager to learn more concerning the movement and ready to give it their support. Several carloads of feed were sold during the month, and some fertilizer. A contract had been made to supply farmers with fertilizer chemicals direct from the boat or factory at a price that will save them several dollars on a ton. Bids had also been submitted for ready-mixed goods for next year's use. Arrangements were being made to handle farm products in counties where shipments could be made in car lots. Hay, grain, straw, fruits, vegetables and live stock will be shipped to a reputable firm in New York, who will either buy direct or on the commission basis as the farmer may prefer. Arrangements were also being made to handle a full line of farm machinery and implements.

Poultry—W. Theo. Wittman reported that his work had been very satisfactory, and that the farmers were greatly pleased with the movement. He said that much better results were being obtained by coming in personal contact with the farmer than he had ever achieved through correspondence or public addresses. Poultrymen were greatly pleased to have him pay a personal visit to their farm, make suggestions and show them wherein they were at fault in caring for their poultry.

Frank Kline reported that his work had been similar to that of his colleague and that he found the farmers greatly appreciative of the fact that the Department of Agriculture gave personal assistance without expense to them. It was his thought that as soon as the movement became more widely known and better understood that the demand for assistance would greatly increase.

Dairying and Animal Husbandry—Dr. M. E. Conard reported that his work had been somewhat diversified. He found that the farmers were pleased with the plan and fully in accord with the work of the department. He had no difficulty in finding plenty of work to do, and believed that it would soon be impossible to give all requests personal attention. Farmers were eager to get advice concerning modern barn and silo construction. He was much enthused with his first month's work and believed that much good would result.

L. W. Lighty reported that he had worked in four or five counties of the State and found the farmers anxious to have him come to the farm to suggest location of buildings and give instruction as to plans and specifications. When not specially invit-

ed, he visited local creameries and made known his mission to patrons present. There are two things that the farmer should understand: First, that every cow in his herd must yield him a profit; second, that the product should be of such a quality that it will yield him the highest market price.

Soil and Farm Crops—Prof. Franklin Menges reported that his work had been pleasant and greatly appreciated by the farmers. While the sole object of his efforts was to induce the farmer to increase the production of his farm, the movement should go a step further and give the farmer needed assistance in marketing the increased production. It was his thought that this feature of the work was the most important that had ever been undertaken by the State. He advocated a concentrated effort; that is, farmers should co-operate not only in their farm operations, but in their buying and selling. We need a well-devised system for future work, and this should be given to the press and explained at all public meetings.

R. P. Kester reported that he had been very busy, having been in nine different counties during the month. His work had been very satisfactory to him and apparently so to the farmers who had called him for advice. There is no danger of overproduction in Pennsylvania, but the extra increased production should come with the least possible expense to the farmer. Production was not decreasing as claimed by some writers and speakers, but increasing. This is made possible by increased knowledge intelligently applied.

Market Gardening and Fruit—Sheldon W. Funk reported that his work had been similar to that of his co-workers. He had visited nine different counties during the month, some visits being made in counties where he had not been specially invited. The thing that appealed most strongly to the farmers was the fact that the department was willing to send some one to give them assistance when most needed. He emphasized the importance of having a definite plan of action that could be presented to the press and the public.

Farm Drainage and Water Supply—Chas. G. McLain reported that he was somewhat a stranger in the work, but that he felt at home because of the cordial manner in which he had been received by his co-workers. He stated that he was making a careful study of farm drainage and home water supply. He had found no precedent established by other States, which put Pennsylvania in the front rank in this work.

Home Sanitation and Household Economics—Director Martin reported for Mrs. Jean Kane Foulke, saying that she was in correspondence with the various organizations throughout the State relative to her work and was spending some time on a demonstration car run over the Lehigh R. R. during the month of October.

I have given a full account of the proceedings of this conference in order that the farmers might get a better idea of the scope and character of the work that is being done by our State department. While the grange has been signally honored by the appointments, eight out of the ten being members of the order, yet it is not a grange movement, but a just recognition of the grange and its work. It is a potent fact that the co-operative branch of the department can work with greater ease and facility with farm organizations than with the individual farmer. As mar-

ager of the Co-operative Department of the Farm Bureau, I would, therefore, urge all farmers to effect an organization, either as a farmers' club or union, or through the medium of the grange. Having been a member of this order many years, I do not hesitate in recommending it as the best farm organization in existence today.

There are some farmers who are opposed to the grange for reasons of their own, and we have no quarrel with them; but simply say that if the grange does not meet with their approval, effect an organization that does. But by all means organize, as that is the beginning of all progress. Organization is the corner-stone in co-operation, and without it progress is impossible. Farmers can be of greater use to themselves, to the community at large, to the State and the nation, as an organized body than as individuals. It is much easier for the State to co-operate with a collection of units than with a single unit.

Now that the co-operative feature of the grange work has been recognized, both by our State and national departments of agriculture, it ought to be easy for the Keystone Grange to succeed, as it now has a moral support that should give it prestige with thinking people. Every farmer in Pennsylvania should join the grange, and every grange should join the Exchange. Then we will have one powerful organization that stands for success and achievement. The Exchange is in a position to give the department material assistance in its work of co-operative buying and selling. There is every reason why the Exchange and the department should co-operate in assisting the farmer to market his produce and in buying the needed machinery and implements for his farm operations.

The State Department of Agriculture has for years been conducting a series of institutes throughout the State. These institutes have been very successful and have been the means of inducing many farmers to adopt modern methods of agriculture. The State now purposes to take a still more advanced position and carry instruction direct to the farm and farm home. The writer knows by actual experience that it is one thing

to stand before an audience of farmers and tell them how to conduct certain farm operations, and quite another to go out on the farm and put his instructions into actual practice.

Much of the work of the institute has been lost because of so many "Doubting Thomases" who did not believe that the instruction was practical or that the instructor could make good. Then again, there are many farmers who believe in the instruction given them by the institute instructor; but for some reason they cannot put it into actual practice, and are constantly asking the department to send its men out to their farms and show them how certain farm operations should be conducted or how they should care for their herds and flocks. These requests came so frequently and the farmers were so insistent that the counselor work has resulted.

This movement is of such magnitude and means so much to the farmers that it will be closely followed by those most directly interested. The foundation is being laid with the idea of perpetuating the work rather than the positions. The advisers will appreciate helpful suggestions and will cheerfully accept criticisms if given in a spirit of helpfulness. They are at the service of all farmers at all times. Requests for calls should be addressed to The State Department of Agriculture.—E. B. Dorsett, Tioga County, Pa.

Merced County Pomona, No. 5, met at Lawrenceville, in regular fall session. It is estimated that 500 were present at the meeting. The usual routine business was transacted and a very pleasing literary program was rendered. A feature was an address on "Vocational Agricultural Education," by Lewis H. Carris, deputy state commissioner of education. Announcement was made that at the next meeting, which will be held at Pennington on Wednesday, November 19, the annual election of officers would take place.

Livingston Grange has been discussing the inauguration of a co-operative buying and selling scheme for the benefit of its members. It was finally decided that Livingston was too near a number of cities and large towns, where prices are already low, for the scheme to be of any practical benefit.—D. T. H.



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Looking Over The Fence.

By THE COUNTRY PARSON.

Uplifting the Farmer.

There is at this moment considerable talk in this country about "uplifting the farmer." You hear it everywhere. The great city dailies which generally reflect rather than mould public opinion, are beginning to treat the farmer with respect. They are regularly printing synopses of important bulletins issued by the Department of Agriculture, as well as special articles on gardening, chicken raising and fruit growing. Some of them have a special agricultural page. Until recently they held up our Captains of Industry and Generals of Finance for the admiration and emulation of the youth of this country. Today their "success stories" deal with the achievement of some successful fruit grower or stockbreeder who has applied business methods to agriculture.

This began, I think, with President Roosevelt's Country Life Commission. It was emphasized by the "high cost of living" discussions. When the city papers reprint parts of the Bureau of Labor statistics under scare headlines like these: "122 Per Cent. Jump in Cost of Foods.—Decline on Potatoes.—Steaks, Chops, Bacon, Lamb, Lard, Hens and Milk Are Some Articles Increased" (Baltimore Evening Sun, Sept. 27), and when they gravely republish portions of a recent bulletin issued by the Department of Agriculture entitled "Economic Use of Meat in the Home" (The Baltimore News, September 27), follow these stories up with interviews from marketmen and meat dealers, together with admonitory editorials, then the "man with the hoe," until quite recently a favorite subject for the cartoonist and an object of sympathy for his smart brother in town, takes on an importance not easily described. That he needs "uplifting," by which we usually mean placing him in a position to furnish us with more abundant and cheaper foods, is the first and most obvious conclusion. Just how this is to be done without the application of more labor and capital to land is not quite clear. Still, for want of something better, we pin our faith to "improved methods," with which there can be no quarrel, for we certainly need them if the fertility of our soils is to be conserved and our crop production is to keep pace with our increase in population.

After having thus satisfactorily disposed of this uplifting problem by saying "improved methods," we some fine day read of thousands of barrels of apples going to waste near Mankato, Minnesota. Here is too much production, or perhaps a lack of transportation. Then we hear that the farmer is unable to pay for labor or purchase fertilizer, because he receives only 15 cents of every dollar we pay for foodstuffs. This calls forth vigorous condemnation of the middleman, whom I hold to be a very useful member of society, performing a very real and important service to both farmer and consumer. Having found a scapegoat, we promptly demand the enactment of legislation. The commission man must be placed under bond, issued by the State Commissioner of Agriculture, as is now being done by New York. If that will not solve the farmer's troubles and "uplift" him to a higher stage of material and intellectual well-being, then enact some more legislation. We go

the limit and say that we need legislation, not methods. Methods are unessential, legislation is the thing!

Is it not possible that we need both? It can hardly be denied that agriculture, as the source and fountain head of all national prosperity, has been crowded out of its rightful place in the public mind by the stupendous industrial and commercial development of this country, fostered by a protective tariff which offered little or no protection to the farmer. Legislators like Daniel Webster or Thomas Jefferson, who had a sincere love for agriculture and a real appreciation of its supreme importance for the national welfare, are exceedingly scarce in Congress. Most of our lawyer statesmen, I fear, quite agreed with us that Cincinnatus, who forsook politics to raise cabbages, must have been just a little queer. They, and we with them, looked upon smokestacks rather than wheatstacks as outward and visible signs of national prosperity.

This mental attitude was reflected in their legislation. While it was perhaps never consciously directed against the farmer, it no doubt often favored other sorts and conditions of men at his expense. It failed to realize as it should, what has been so finely said by men of old. For instance, in an ancient Irish tract, which forms part of the Senchus Mor, and is supposed to be a part of the Brehon code, traceable to the time of St. Patrick, "Land," it says with deep poetic symbolism, "is perpetual man. All the ingredients of our physical frame come from the soil. The food we require and enjoy, the clothing which enwraps us, the fire which warms us, all save the vital spark that constitutes life, is of the land; hence it is 'perpetual man.'"

The scientific and mechanical discoveries of the last century, which may all be traced back to the application of heat for the production of motive power, misled us to over-emphasize the industrial occupations at the expense of agriculture. This was encouraged by the development of rail and water transportation and the consequent over-emphasizing of commerce. We forgot the text of the Book of Books which says: "Much food is in the tillage of the poor, but there is that which is destroyed for want of judgment." (Proverbs 13:23). "Want of judgment" made us look upon the farmers as our "heavers of wood and drawers of water," important only as they supplied food for people engaged in other and higher occupations. We forgot that "the cultivation of the soil is an obligation imposed by nature on mankind."

We are beginning to realize our mistakes. We are talking about "uplifting the farmer." We are arguing about ways and means—methods versus legislation. And this, I feel, is a good thing. What we really need, however, is a change of heart. The farmer needs no "uplifting." He is engaged in the one occupation, besides the holy ministry, to which an allwise Creator, when He placed Adam in the Garden of Eden "to dress it and to keep it," directly set man. There are but two things I ever really cared to be—a minister or a farmer. These are the two callings which constantly have to do with fundamentals and essentials. All other things have value only as they serve to make them more effective. Like Aaron and Hur, staying up the hands of Moses, all other occupations are truly helpful and of value only as they uphold these two, upon which the welfare of every people ultimately depends.

As we realize that, our state or mind

will reflect itself in methods and legislation. This is what I would teach our theological and agricultural students, with the hope of some day "uplifting" other folks.

BUSINESS METHODS IN EARTH ROAD MANAGEMENT

A Bond Issue Will Not Help.

Is there anything better for our country earth roadways, anything cheaper or more simple than the old fashioned King drag when utilized by a road patrol system? Do you think for one moment that the proposed \$50,000,000 bond issue is going to prove the salvation of the by-roads in your community which you are compelled to travel in winter and summer? Dismiss such a thought. The proposed bond issue is meant to be spent in work with the Macadam road system. It won't give you any better country by-roads than you have been traveling. It looks to me that the sooner this bond business is put out of the way, the sooner will our highway department begin to give attention to our great earth road mileage throughout our State.

For instance, the Highway Department could institute a policy of giving instruction to the township road supervisors in every county in reading and understanding a blue print road survey map. Then, whenever a township supervisor board would like to cut down a hill or fill in a hollow, widen a road or improve its grading the board could have the State Highway Department make a survey and chart the survey on their blue print map. It would then be a simple matter for the local supervisors to fix the road according to standard methods. But is our Highway Department interested in teaching our road supervisors? Has Mr. Bigelow following ever revealed the inclination to have the State highway engineers get right down among the farmers and systematically show them how to make up-to-date roads? I'm talking of earth roads, the kind that constitutes over 90 per cent. of our highways. Instead of attempting to educate the supervisors in their duties, our Highway Department has been busy with bond issues, ultra-high-grade Macadam roadways, and the organization of a sturdy brigade of employees.

These latter are very necessary. So are the finer type of expensive highway (sometimes). So is it necessary to study the problems connected with the raising of money for our State road work. But our road work is being neglected. This is not what we installed an expensive Highway Department for, and if our highway officials would devote their attention more to teaching the unit township supervisors how to learn more about their jobs, rather than to be everlasting howling about not having enough money, our country township districts would soon be made more respectable.

We country folks want a policy of "all the year round care and attention of every section of our township highways." We are tired of this helter-skelter road-patching policy without any up-to-date plan; without any permanency of value, and with big money expended and little to show for it. Systematize our country road work and improve our earth roads as needed and the expensive stone roads will come as needed.

Let our State have each of its 1600 separate townships divided off into 30 or 40 separate road sections, with a road patrolman working proper implementations, and his common sense, upon every stretch of our country earth

by-roads. By this method you will find that responsibility is fixed. You can tell exactly who is to blame if work is neglected or carelessly performed. Better results are accomplished immediately. I know exactly wherein I am speaking. I have been through this whole difficult problem, and worked out this system to a success.

During a blizzard each section patrolman knew that it was his business to keep his road section open. During a cloudburst each foreman knew from his instructions that it was his particular business to watch whether all the water would or would not quickly run off of his road section. He understood that his road section was regularly inspected at intervals, and that if he did not promptly get out on the job and adopt the "stitch in time" policy, he would promptly be held accountable for neglect.

That is what our country earth roads need—definite study and intelligent workmanship when it suits the road, and not the workman, and better business methods point the way. A \$50,000,000 bond issue is not necessary to establish such a system throughout our commonwealth. The main effect of the bond issue looks to me to be the obtaining of "soft" clerk jobs and fat contracts and some few miles of ultra-high-grade macadamized roadways. But what good is that going to do us who live in the country and must travel through the "mire" of yellow mud.

I am for a plain straightforward, intelligent workmanship on our township earth roads. Let us pay as we go and pass this bond issue up till some future period of years when we know how to build a road that will last for at least one generation and will not cost \$15,000 to \$20,000 per mile to construct, and goodness knows how many more thousands to maintain during each passing year.

We hear nothing but "No money" from Harrisburg. The newspapers have been filled recently with a lot of strictures upon Auditor General Powell for holding up the highway repair and maintenance work of Commissioner Bigelow by withholding State appropriation money. It is claimed by the Highway Department that because of the hold-up of appropriation money there is more reason than ever why the \$50,000,000 bond issue should be voted for at the November election. Yet figures given out on October 1 showed that on that date the Commissioner's department had available for road improvement work \$1,000,000, within about \$20, and that only 2 per cent. of this amount was being held up by Mr. Powell. "Just why Mr. Bigelow should hold up 98 per cent and stop all work I do not know," Mr. Powell is quoted as having remarked.

The whole thing appears to me to be just regular "politics" to swing more pressure favorable to the bond issue. It isn't money we need. It's intelligent workmanship, and the man who is hunting for a "soft" job in our country road affairs deserves disappointment. Personally I'm for administering the medicine when ever needed. The sooner this whining is cut out and the tough hickory lath applied with a strong right arm to our political road makers the sooner will we folks who travel our country earth roads get the immediate improvements we need and can have now. I don't mean at some vague future date. I mean right away for the township road drag patrol system starts its improvement work immediately.—Dr. Donald McCaskey, Lancaster Co., Pa.

Winston of the Prairie

By HAROLD BINDLOSS

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SYNOPSIS OF PREVIOUS CHAPTERS.

Farmer Winston, having failed as a home-seeker and driven to desperation, accepts a proposal to simulate Lance Courthorne, an adventurer, thru the consummation of which Courthorne and his pals, after a struggle with the police, during which Trooper Shannon is killed by Courthorne, who leaves evidence pointing to Winston as the murderer, are able to smuggle thru some illegal distillery products. The scene shifts to Silverdale, a settlement founded by Colonel Barrington, to which Maud Barrington, his niece and ward has just returned after a visit to Montreal. Her questions elicit the information that the Colonel is worried over a fall in wheat prices, especially in the face of his advice to her to hold her share of that commodity; and also over the coming advent of Lance Courthorne, Miss Barrington's cousin, to Silverdale to claim his share of his father's estate. Maud Barrington learns more of her cousin's unsavory past from a frank conversation with her aunt. The Colonel has just refused offers and advice coming from Graham, a Winnipeg grain broker.

CHAPTER VII.—(Continued).

Barrington shook hands with Graham and then sighed a little when he went out. "I believe the man is honest, and he is a guest of mine, or I should have dressed him down," he said. "I don't like the way things are going, Dane, and the fact is we must find accommodation somewhere, because now I have to pay out so much on my ward's account to that confounded Courthorne it is necessary to raise more dollars than the banks will give me. Now, there was a broker fellow wrote me a very civil letter."

Dane, who was a thoughtful man, ventured to lay his hand upon his leader's arm. "Keep yourself and Miss Barrington out of those fellows' clutches at any cost," he said.

Barrington shook off his hand, and looked at him sternly. "Are you not a trifle young to adopt that tone?" he said.

Dane nodded. "No doubt I am, but I've seen a little of mortgage jobbing. You must try to overlook it. I did not mean to offend."

He went out, and, while Colonel Barrington sat down before a sheet of accounts, sprang into a waiting sleigh. "It's no use, we've got to go thru," he said to the lad who shook the reins. "Graham made a very sensible suggestion, but our respected leader came down on him, as he did me. You see, one simply can't talk to the Colonel, and it's unfortunate Miss Barrington didn't marry that man in Montreal."

"I don't know," said the lad. "Of course, there are not many girls like Maud Barrington, but it is necessary she should go outside Silverdale."

Dane laughed. "None of us would be old enough for Miss Barrington when we were fifty. The trouble is, that we spend half our time in play, and I've a notion it's a man, and not a gentleman dilettante, she's looking for."

"Isn't that a curious way of putting it?" asked his companion.

Dane nodded. "It may be the right one. Woman is as she was made, and I've had more than a suspicion lately that a little less refinement would not come amiss at Silverdale. Anyway, I hope she'll find him, for it's a man with grit and energy, who could put a little desirable pressure on the Colonel occasionally, we're all wanting. Of course, I'm backing my leader, tho it's going to cost me a good deal, but it's time he had somebody to help him."

"He would never accept assistance," said the lad thoughtfully. "That is, unless the man who offered it was, or became by marriage, one of the dynasty."

"Of course," said Dane. "That's why I'm inclined to take a fatherly

interest in Miss Barrington's affair. It's a misfortune we've heard nothing very reassuring about Courthorne."

CHAPTER VII.

Winston's Decision.

Farmer Winston crossed the frontier without molestation and spent one night in a little wooden town, where several people he did not speak to apparently recognized him. Then he pushed on southwards, and passed a week in the especially desolate settlement he had been directed to. A few dilapidated frame houses rose out of the white wilderness beside the broad beaten trail, and, for here the prairie rolled south in long rises like the waves of a frozen sea, a low wooden building on the crest of one cut the skyline a league away. It served as outpost for a squadron of United States cavalry, and the troopers daily maligned the Government which had sent them into that desolation on police duty.

There was nothing else visible but a few dusky groves of willows and the dazzling snow. The ramshackle wooden hotel was rather more than usually badly-kept and comfortless, and Winston, who had managed to conciliate his host, felt relieved one afternoon when the latter flung down the cards disgustfully.

"I guess I've had enough," he said. "Playing for stakes of this kind isn't good enough for you!"

Winston laughed a little to hide his resentment, as he said, "I don't understand."

"Tshaw!" said the American, with a contemptuous gesture. "Three times out of four I've spoiled your hand, and if I didn't know that black horse I'd take you for some blamed Canadian rancher. You didn't handle the pictures that way when you stripped the boys to the hide at Regent, Mr. Court-horne."

"Regent?" said Winston.

The hotel-keeper laughed. "Oh, yes," he said. "I wouldn't go back there too soon, any way. The boys don't seem quite contented, and I don't figure they would be very nice to you. Well, now, I've no use for fooling with a man who's too proud to take my dollars, and I've a pair of horses just stuffed with wickedness in the stable. There's not much you don't know about a beast, any way, and you can take them out a league or two if you feel like it."

Winston, who had grown very tired of his host, was glad of any distraction, especially as he surmised that while the man had never seen Courthorne, he knew rather more than he did himself about his doings. Accordingly, he got into the sleigh that was brought out by and by, and enjoyed the struggle with the half-tamed team, which stood with ears laid back, prepared for conflict. Oats had been plentiful, and prices low that season. Winston, who knew at least as much about a horse as Lance Courthorne, however, bent them to his will, and the team were trotting quietly thru the shadow of a big birch bluff a league from town, when he heard a faint clip-clop coming down the trail behind him. It led straight beneath the leafless branches, and was beaten smooth and firm, while Winston, who had noticed already that whenever he strayed any distance from the hotel there was a mounted cavalryman somewhere in the vicinity, shook the reins.

The team swung into faster stride,

the cold wind whistled past him, and the snow whirled up from beneath the runners, but while he listened, the last two adverse seasons, seldom rhythmic drumming behind him also quickened a little. Then a faintly musical jingle of steel accompanied the beat of hoofs, and Winston glanced about him with a little laugh of annoyance. The dusk was creeping across the prairie, and a pale star or two growing into brilliancy in the cloudless sweep of indigo.

Wheeling the team he drove back the way he came, and, when a dusky object materialized out of the shadows beneath the birches, swung the horses right across the trail. The snow lay deep on either side of it just there, with a sharp crust upon its surface, which rendered it inadvisable to take a horse round the sleigh. The mounted man accordingly drew bridle, and the jingle and rattle betokened his profession, tho it was already too dark to see him clearly.

"Hallo!" he said. "Been buying this trail up, stranger?"

"No," said Winston quietly, tho he still held his team across the way. "Still, I've got the same right as any other citizen to walk or drive along it without anybody prowling after me, and just now I want to know if there is a reason I should be favored with your company."

The trooper laughed a little. "I guess there is. It's down in the orders that whoever's on patrol near the settlement should keep his eye on you. You see, if you lit out of here we would want to know just where you were going to."

"I am," said Winston. "A Canadian citizen, and I came out here for quietness."

"Well," said the other, "you're an American, too. Any way, when you were in a tight place down in Regent there, you told the boys so. Now, no sensible man would boast of being a Britisher unless it was helping him to play out his hand."

Winston kept his temper. "I want a straight answer. Can you tell me what you and the boys are trailing me for?"

"No," said the trooper. "Still, I guess our commander could. If you don't know of any reason, you might ask him."

Winston tightened his grip on the reins. "I'll ride back with you to the outpost now."

The trooper shook his bridle, and trotted behind the sleigh, while, as it swung up and down over the billowy rises of the prairie, Winston became sensible of a curious expectancy. The bare, hopeless life he had led seemed to have slipped behind him, and tho he suspected that there was no difference between his escort and a prisoner's guard, the old love of excitement he once fancied he had outgrown forever, awoke again within him. Anything that was different from the past would be a relief, and the man who had for eight long years of strenuous toil practiced the grimmest self-denial wondered with a quickening of all his faculties what the future, that could not be more colorless, might have in store for him.

It was dark, and very cold, when they reached the wooden building, but Winston's step was lighter, and his spirits more buoyant than they had been for some months, when, hailing the sleigh over to an orderly, he walked into the guard room, where bronzed men in uniform glanced at him curiously. Then he was shown into a bare log-walled hall, where a young man in blue uniform with a weather-darkened face was writing at a table.

"I've been partly expecting a visit," he said. "I'm glad to see you, Mr. Courthorne."

Winston laughed with a very good imitation of the outlaw's recklessness.

and wondered the while because it cost him no effort. He, who had, thruout the last two adverse seasons, seldom smiled at all, and then but grimly, experienced the same delight in an adventure that he had done when he came out to Canada.

"I don't know that I can return the compliment just yet," he said. "I have one or two things to ask you."

The young soldier smiled good-humoredly, as he flung a cigar case on the table. "Oh, sit down and shake these furs off," he said. "I'm not a worrying policeman, and we're white men, any way. If you'd been twelve months in this forsaken place, you'd know what I'm feeling. Take a smoke, and start in with your questions when you feel like it."

Winston lighted a cigar, flung himself down in a hide chair, and stretched out his feet towards the stove. "In the first place, I want to know why your boys are shadowing me. You see, you couldn't arrest me unless our folks in the Dominion had got their papers thru."

The officer nodded. "No, we couldn't lay hands on you, and we only had orders to see where you went to when you left this place, so the folks there could corral you if they got the papers. That's about the size of it at present, but, as I've sent a trooper over to Regent, I'll know more tomorrow."

Winston laughed. "It may appear a little astonishing, but I haven't the faintest notion why the police in Canada should worry about me. Is there any reason you shouldn't tell me?"

The officer looked at him thoughtfully. "Bluff? I'm quite smart at it myself," he said.

"No," and Winston shook his head. "It's a straight question. I want to know."

"Well," said the other, "it couldn't do much harm if I told you. You were running whisky a little while ago, and tho the folks didn't suspect it, you had a farmer or a rancher for a partner—it appears he has mixed things up for you."

"Winston?" and the farmer turned to roll the cigar which did not need it between his fingers.

"That's the man," said his companion. "Well, tho I guess it's news to you, the police came down upon your friends at a river crossing, and farmer Winston put a bullet into a young trooper, Shannon, I fancy."

Winston sat upright, and the blood that surged to his forehead sang from him that would render it undesirable to remain so. His farm would be sold realize the money borrowed by him, the holder of the mortgage received a profitable interest already. Had the unforeseen not happened, Winston would have held out to the end of the struggle, but now he had no set that this was out of the question.

Winston, but it might deal more heavily with him as the outlaw Courthorne. He could also make a quick dash, and when the officer returned to that supper was ready, he rose with a smile.

"Good Lord!" he said hoarsely. "He killed him?"

"Yes, sir," said the officer. "Killing's not quite the word, because one shot would have been enough to free him of the lad, and the rammer fired twice into him. They figured, from the way the trooper was lying and his footprints, that he meant to finish him."

The farmer's face was very grim as he said, "They were sure it was Winston?"

"Yes," and the soldier watched him curiously. "Any way, they were sure of his horse, and it was Winston's ride left it behind him. It wasn't killing for the trooper don't seem to have had a show at all, and I'm glad to see it makes you kind of sick. Only that one of the troopers allows he was trailing you at a time which shows you had your hand in the thing, you wouldn't be sitting there smoking that cigar."

It was almost a minute before Winston could trust his voice. Then he said slowly, "And what do they want me for?"

"I guess they don't quite know

whether they do or not," said the officer. "They crawl slow in Canada. In the meantime they wanted to know where you were, so they could take on paper if anything turned up against you."

"And Winston?" said the farmer.

"Got away with a trooper close behind him. The rest of them had headed him off from the prairie, and he took to the river. Went thru the ice and drowned himself, tho as there was aizzard nobody quite saw the end of him, and in case there was any doubt they've got a warrant out. Farmer Winston's dead, and if he isn't he soon will be, for the troopers have got their net right across the prairie, and the Canadians don't fool time away as we do when it comes to hanging anybody. The ice seems to have worried you."

Winston sat rigidly still and silent almost a minute. Then he rose up with a curious little shake of his shoulders.

"And farmer Winston's dead. Well, that's a hard life. I knew him rather well," he said. "Thank you for the story. On my word this is the first I've heard it, and now it's time I'm going."

The officer laughed a little. "Sit down again. Now, there's something about you that makes me like you, and as I can't talk to the boys, I give you the best supper we can give in the whole forsaken country. If you can camp here until tomorrow, I can arrange that will meet the needs of everybody, because I'll know whether the Canadians want you or not, the morning."

Winston did not know what prompted him to agree, but it all seemed part of a trap that impelled him against his coming will, and he sat still beside the stove, while his host went out to the orders respecting supper and the men of the sleigh. He was also glad to be alone a while, for now and then a fit of anger shook him as he thought how he had been duped by Courthorne. He had heard Shannon's story, remembering it, could fancy Courthorne had planned the trooper's deception with a devilish cunning that he realized by what means the blame had been upon a guiltless man. Winston's face became mottled with gray as he realized that if he revealed his identity he had nothing but his life to offer in proof of his innocence.

It was anger and not fear that led him, for nobody could arrest a man who was dead, and there was no one that would render it undesirable to remain so. His farm would be sold realize the money borrowed by him, the holder of the mortgage received a profitable interest already. Had the unforeseen not happened, Winston would have held out to the end of the struggle, but now he had no set that this was out of the question.

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"I guess they don't quite know



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Dressing Hogs For Home Use. By Prof. W. H. Tomhave, State College, Pa.

There is no one occupation on the farm that has become a more fixed custom than that of the annual butchering time. Ever since the hog has had its proper place among farm animals, this has been an annual event. This well-established custom, however, is gradually giving way to dependence upon the butcher to supply the cured meat for the farm home. A reason for this tendency is in part due to the fact that in many cases people have been unfortunate in keeping their supply of cured meat in proper condition and have lost it by souring. It is true that the cured hams and bacon that are generally secured upon the market as packers' product are of fine flavor and in good condition. The home-cured product can be equally as good if a few rules are observed and care is taken in all details.

Kind of Hogs.—The kind of hogs best adapted for farm butchering will vary with conditions. There was a time when a hog must be "large and fat" before he could be slaughtered, and in many instances barrows were over a year old when butchered. With the present high price of feed, there is a tendency toward butchering light hogs. The most desirable type or weight of butcher hog is one that weighs from 160 to 250 pounds. If such hogs make the best butcher hogs, they naturally should make the best kind for home consumption; however, most any weight can be used.

Time of the Year.—Fools.—The time of the year best adapted for butchering will depend somewhat upon the weather conditions. It is desirable to have cold weather, so that the carcass may be properly cooled. It is not necessary that a special place be prepared for this work, but if a sheltered or protected place can be had, the work may be done with less discomfort. A shed or building can be used to good advantage. It is desirable to have a place that has a slope, so that the surplus water may drain away. It is not necessary to have a complete butcher's outfit to do good home butchering, but one must have a few simple tools with which to do the work properly. A scaling cut may be had either by the use of a tank made for such purpose or by the use of a barrel. A six-inch sticking knife, such as can be purchased for about 35 cents, is almost indispensable, and should be secured. A hog hook, such as any blacksmith can make, a few gambles, a platform, facilities for heating water, and an instrument of some kind for scraping, complete the set of convenient tools for dressing hogs. For scraping the carcass, an old corn knife or dull knife of any kind can be used, and with a good scald all the hair can

be removed. The most convenient instrument, however, for removing hair and scurf, is the candle stick scraper, which can be purchased for about 25 cents. The first cost of equipment need not cost much, but after completed it should be well cared for. It should have a regular place of storage.

Handling Hogs Previous to Slaughter.—Frequently hams and shoulders come out of the curing process in poor condition and unfit for food because the live hogs had not been properly handled before slaughtering. Such meat was spoiled before reaching the curing vessel. A hog should be kept off feed for at least 24 hours before slaughtering. To do so will empty the paunch and intestines of food and the blood will not be so full of assimilated food, which makes it easier to drain the blood from the

instances it is "shoulder stuck," which reduces its keeping qualities for home use or its value for market. It requires two men to do the sticking. The hog should be thrown on its back and held in that position by one man while the other man does the sticking. One man can easily handle most any size hog if he keeps him flat on his back and does not allow the hog to get a foothold on some obstruction. Both front legs should be drawn back and held firmly. The person holding the hog should have both knees against the shoulders.

The one sticking the hog should grasp the jaw and hold it down firmly, which will aid materially in holding the hog on its back, besides, it places the hog in the proper position for inserting the knife. There are other positions in which the hog

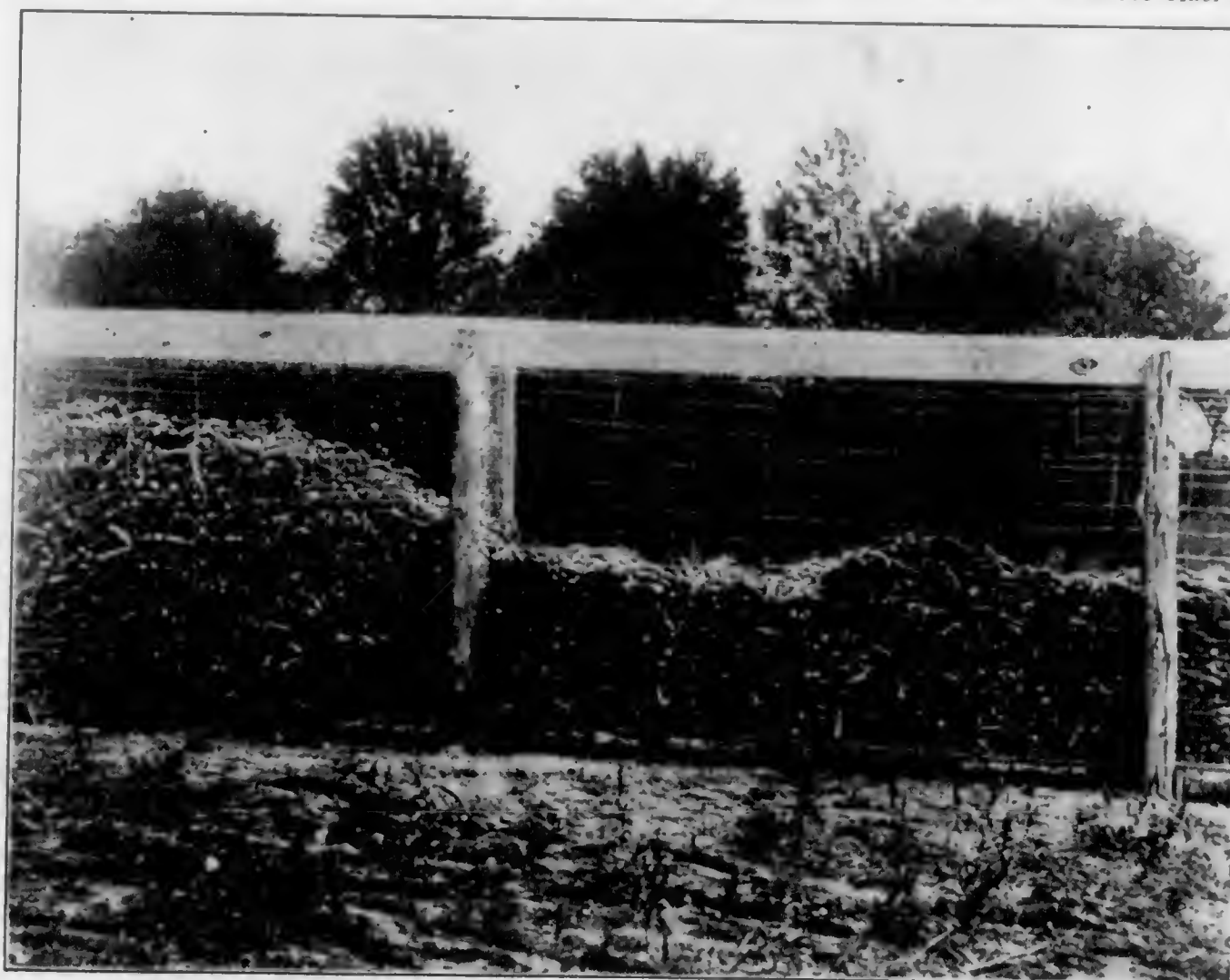
might be placed for sticking, but this is the simplest and most convenient method. Some men or shoot their hogs before the bleeding is done. There is no objection to either of these methods, except that in shooting there is always danger of missing the mark, and in stunning the hog it requires more time and does not permit of as good bleeding as when the sticking method is used. In the case of very heavy hogs, it is desirable to stun them, as they can be handled easier.

Proper bleeding is very important, and for that reason the work should be done as accurately and quickly as possible. Thorough bleeding will have a tendency to give a cleaner, whiter, and more palatable carcass, and less likely to spoil. A straight, narrow-bladed, six-inch sticking knife is desirable and will insure greater accuracy in locating the proper place to sever the arteries.

With the hog on its back, locate the point of the breast bone and make an incision about four inches long just in front of the breast bone over the mid-line. The knife should be held at an angle of 35 to 40 degrees, cutting back and under the breast bone to a depth of five or six inches, depending upon the size of the hog. After the knife has been inserted the proper depth, cut down to the breast bone, severing the blood vessels where they come from the chest cavity and spread. Care should be taken that the knife is not inserted too deep so as to open the chest cavity. In so doing, the blood will syphon back and fill the chest cavity with blood, which is difficult to remove after the hog has been dressed.

The knife should be kept in the mid-line, avoiding "shoulder sticking." When the cut is made, one side or the other, it will be forced between the

(Continued on Page 9.)



WOVEN-WIRE CORN RACK. COMMON IN PARTS OF THE CORN BELT.

Our Farm Counselor

By R. P. Kester, Penna. Farm Advisor
on Soils and Crops.

The Expenses of Living.

Two of my great-grandfathers were pioneer settlers in one of the inland counties of Pennsylvania. While they probably have a common history in many details, it is of one of them I wish to write in particular, giving, as truthfully as the family annals have conveyed it, an impression of the life and the cost of living of a hundred years ago.

I do not know what were included in the effects of that great-grandfather when he moved with his family into that unbroken forest of pine and hemlock, but I do know that it was a family of nine—father and mother, and four boys and three girls. Surrounded as we of the twentieth century are by conveniences and luxuries, it is hard, it is impossible, to realize the difficulties and privations of the pioneer life. They had no shelter until they built their log-cabins. The land had to be cleared of its great trees before there was a place in which to plant a crop. Everything was of the crudest, home-made kind. Yet no word of complaint comes down to us from them. They saw nothing, knew of nothing better, and were satisfied. They no doubt enjoyed that feeling of satisfaction that comes to one who has grappled with and overcome difficulties.

I have looked back in imagination thru the century of time and looked in upon that home and its activities. I have visited them, mentally, in seed-time and harvest, and watched them plant their crops among stumps, harvest it with sickles, thresh it with flails or tramp it out with oxen, and then winnow it by fanning with a sheet as it fell from a shovel. I have sat at the rule table and have partaken of the mush and milk and venison; have enjoyed the quiet of the evening, sitting with them around the open fireplace as the burning logs furnished comforting warmth and flickering light. In imagination I have heard the whir of the spinning-wheel (it's in the attic now) and the pounding of the loom as that great-grandmother and her daughters converted the wool from their sheep and the flax from their fields into cloth and yarn for the family's clothing. I look about the home and the farm, and fail to see anything but what was grown or manufactured there.

They are pleasant visits, those little jaunts into the shadowy past. I feel that I come back a wiser and a better man. Especially is it true when I wander thru that old grave-yard up in that hill country where they are taking their well-earned rest and realize with Thomas Gray that:

"Beneath those rugged elms, that yew-trees' shade,

Where heaves the turf in many a mouldering heap,

Each in his narrow cell forever laid,
The rude forefathers of the hamlet sleep."

It is not my purpose to be sentimental, yet I am glad that I can feel these things. I sometimes think we are trying too hard to get away from sentiment, try to stifle too much the natural emotions of life. I am glad to feel the tugging of the cord that links us to the past, for then we realize that it also stretches on into the unknown future.

At that time every home was a little independent kingdom. They were not dependent upon others for much, because they supplied their own needs. They did not sell much, because other families did likewise. It has come down in the family that that great-grandfather would go to a neighbor in conversation, "I don't know why it is, but

be as saving as we can, our store bill will run up to \$10 or \$12 every year." After all, then, the complaint of the "high cost of living" is not entirely modern.

I raise my head from my reverie and look about the room. Scarcely a thing in it was found in that pioneer home. We turn a switch and light the house; open a faucet and hot or cold water flows; pick up a fountain pen or go to the typewriter to write. Wife sits down to sewing machine to sew cloth or silk brought from afar. She starts a washing machine to do the washing. We go to the library and take down our choice of a thousand books; turn to the table and choose a paper or magazine; we take our choice of a wardrobe full of clothing; we sit down to a breakfast of fish from the sea or steak from the market. Everything from a spool of thread to an engine will be delivered to the door. We call up the ends of the earth and converse with them; we send messages over or under the sea; we step into an carriage or automobile or car and travel far and often.

The tiny tot learns in its first year to want money, and from that time on, ten thousand things claim our attention and excite our desires because we believe they will contribute to our comfort and pleasure. I have enumerated only a few, but the point is, they must be paid for. We think we must have them, but my great-grandfather did not, and could not have them. The life he lived would not



HOME-MADE CONCRETE CORNER POST.

be more expensive now than it was then. It is mainly because living in every phase and in every place has so changed that it bears so heavily upon us. The cheapness of any one thing is almost a marvel, but the number of things is legion when compared with primitive times.

In our complaints about the cost of living, we think to lower it by compelling others to work for less and charge us less for what we want. We never think of denying ourselves. If we must have the goods and attendance of others, we must pay for them. The laborer is worthy of his hire. Everything that contributes to comfort, convenience or happiness costs somebody time and labor, and must be paid for. In my great grandfather's time a great proportion of the people were hard-working producers of the primal necessities of life—food, shelter and clothing. In the pioneer days, home-spun clothing and thick skin on the hands was the common apparel. The number of producers of primal necessities today is out of proportion to the number of people engaged in producing and handling the secondary things, or luxuries, and dealing in the necessities of life. But if we must have them, we must pay for them.

Personally, I would not want to live the simple life of the pioneer. I am not urging that we should forego all of the comforts and luxuries of the present; but if in our desire for them we load

ourselves with work and worry and responsibility so that there is no joy and no success in life, had we not better do without some of them? Until humanity learns to limit its wants and sends some of its servers of luxuries into the ranks of producers of necessities, there will be no relief from the night-mare of the "high cost of living."

Note.—It should be remembered that the above was written not to farmers or of farmers especially, but about and for all the people, whatever their business. People should learn that it is not the cost of primal necessities alone that is causing the universal "pinch."—R. P. K.

ECONOMY ON THE FARM.

The question of economy on the farm is rather a large one. There are one or two phases of which I am convinced many farmers have not grasped the true meaning. I know many who undoubtedly consider themselves truly economical, and some of them, according to their neighbors, carry the virtue to a point where it becomes a vice in certain matters; yet it would not be hard to find things and methods of management practiced by these same "hard fisted" men that are positively wasteful.

In riding about the country one will often come to a farm house where the yards and lawns are littered with farm tools and old wagons. The practice

with planes, bits, saws, etc., many little jobs of repairing can be done on rainy days, little things which, if neglected, will endanger the life of the machine or tool.

The cost of equipping and maintaining such a repair shop will be found infinitesimal compared with the actual cash saving. Many little jobs about the buildings may be done if one has the tools, which, if neglected a few weeks, would necessitate the services of a professional carpenter. Having the tools at hand is a wonderful help.—Charles H. Chesley, New Hampshire.

CORNER AND GATE POSTS OF CONCRETE

Farmers need not be told that the cost of fencing is constantly increasing. In the old days, when most farms had several acres of woodland, the making of post and rail fences was as common as any other regular farm work. Chestnut and other suitable timber is extremely costly and the wire fence has supplanted the old post and rail type. Until recently, however, posts that would correspond to the durable and economical wires were not to be had. Now they are made of indestructible concrete. Concrete posts last practically for all time, and if properly put are always in alignment. Railway corporations are everywhere substituting concrete for timber.

Fortunately the farmer can make his own concrete posts. All he requires is cement, sand and stone or gravel and the molds. He can either purchase or make his molds. The purpose here is to describe methods of making concrete corner and gate posts. For the post mold proper, two-inch lumber makes a stiff form. Cut two boards 2 x 10-inch and two 2 x 14-inch, all 7 feet 6 inches long. (For the 2 x 10, a 2 x 4 and a 2 x 6-inch piece may be substituted; likewise for the 2 x 14, a 2 x 6 and a 2 x 8-inch may be used.) The 2 x 10-inch pieces are nailed to the three sets of 2 x 4-inch cleats as shown on next page. Holes are bored in the cleats so that the 8-inch bolts 18 inches long, running across the forms from cleat to cleat, will rest against the 2 x 14-inch boards and hold the box-like form in shape. One-inch triangular-shaped strips tacked in the corners of the form will level the sharp edges and produce a neater appearing post.

Each form for the braces consists of two side pieces, 1 x 8 inches, and one bottom piece, 1 x 8 inches, all 10 feet long. Nail the pieces together in the form of a trough six inches deep. To make the bevel joint with the post form, lay off 34 inches on the lower edge of the side pieces at one end and saw off the trough to the bevel. In the side pieces of the post mold, eight inches from the top, cut an opening extending downward 7 inches deep and 8 inches wide to receive the molds for the braces.

Mixing the Concrete and Molding the Post.—With the forms ready and all of the material on hand, dig the hole 31 feet deep for the post proper. At distances of 9 feet 6 inches from the center of the finished post dig another hole 31 feet deep for the concrete bulb in which the brace will end. One foot above bottom of this hole, open a trench 8 inches wide sloping upward towards the corner post to a point within 7 feet of the center of it.

Mix the concrete, 1 bag of Portland cement to 2 cubic feet of sand to 1 cubic foot of crushed rock, or 1 bag of cement to 4 cubic feet of good pit gravel. Make the concrete mushy wet and fill the holes to the depth of one foot. Set the mold for the post in position and slide the troughs for the braces into the openings, with the upper ends even with the inside of the post

form. Fasten them securely and chink the cracks firmly. Brace all three inches from each corner, set a 3-inch rod 10 feet long with the upper ends bent backward. Fill the post form with concrete to the openings of the braces. Place one inch of concrete in the troughs for the braces and lay upon it, one inch from each side, two 3-inch rods with their upper ends extending into the post mold. Put in 4 inches more of concrete, place two more rods in a similar manner and then another inch of concrete. Work rapidly and without delay finish filling the post form with concrete. After the concrete has stiffened, level the top edges of the post and the upper edges of the brace with a trowel.

For each post with two braces, there will be required 4 bags of Portland cement, 8 cubic feet of sand, 16 cubic feet of crushed rock (or 4 bags of cement and 16 cubic feet of bank-run gravel), and 12 pieces of 3-inch rods 10 feet long. These materials will cost about \$2.50.

Curing the Post and Stringing the Fencing.—See that the post is fenced off so that animals cannot disturb it before the concrete has acquired its strength. After 7 days the forms may be carefully removed. Do not use the post until it is 30 days old. Many persons make corner-posts in the fall, before freezing weather, and do not place the fencing on them until the next spring. The wire fencing may be pulled around the post, as shown, or ratchet fasteners may be attached by making holes through the post by means of small gas pipe set through holes in the form or by means of greased rods turned frequently while the cement is setting.

The same form is adaptable to brace-posts in the fence line or to gate-posts. Hinges and fasteners for gates can be secured in the manner described above for ratchet wire-tighteners. For entrance ways, very attractive ornamental posts can be made in the same general method.—L. S.

MARKETING POTATOES.

The Auto Truck.

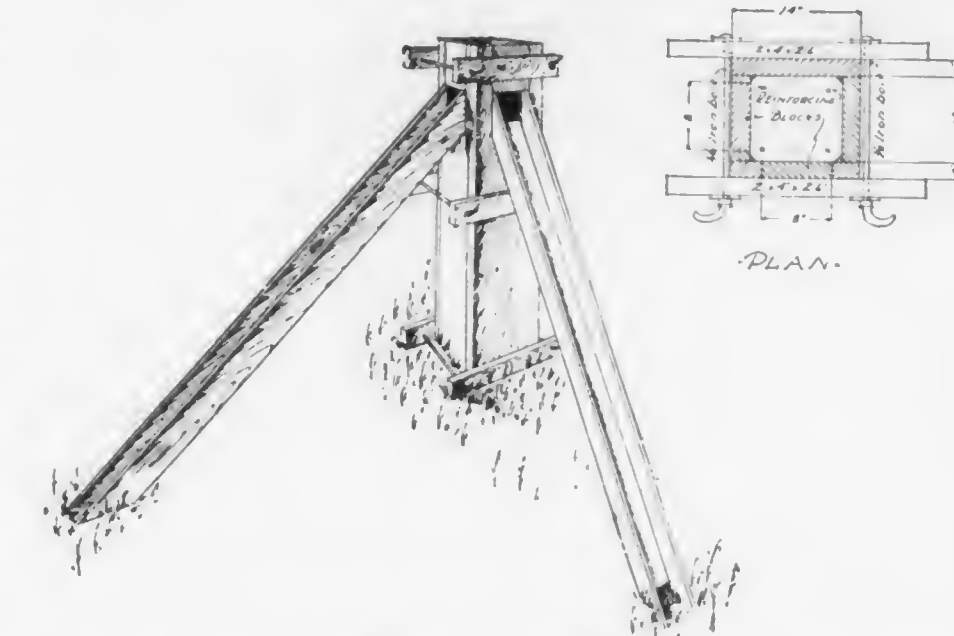
I noticed in a late issue a good word for the automobile truck as a carrier of produce from the farm to a direct market. I am glad to see such reports. It looks as if the truck was going to revolutionize country as well as city transportation, but it is not far on the way yet and will come in slowly. One difficulty is that the average good farmer is not looking in that direction yet. He is making a study of his chances of buying a good pleasure automobile and maintaining it. There is, of course, much more real need of one by country residents than there is in the city, where cheap travel has long existed, but in the country it is just becoming possible for farmers, six miles from town, to go there and back in an hour and transact some business while there.

Good country roads are the reason for that about as much as the automobile. I asked a western New York farmer the other day how many potatoes his team could take to town to a load over the improved road, and he said "60 bushels." Recalling the old days of deep mud late in the fall and the 20 bushels or so that we used to draw, I was a little astonished. However, this was not the whole story. The farmer could not only draw 60 bushels to a load, but he could make two trips a day, when on the old soft roads a single trip would have been the limit. This means to him the marketing of 120 bushels of potatoes in a day instead of a mere 20 or 30, and it meant comparative ease to team and driver.

Taking the item of marketing potatoes alone and the change from the old

to the new is immense. I did not wonder when I heard this same farmer say that he was going to raising potatoes as a regular business, when he could also raise wheat or fruit with the best of them. The bushel potato crate is also helping in that business. When we used to pick up potatoes and dump them into the wagon box in bulk, to be shoveled out slowly and painfully, to the potatoes at least, we made poor progress. Now there is no dumping, and the crates can be unloaded rapidly, with not a tithe of the injury to the potatoes.

There is a complaint from the potato farmers over the way the buyers are managing the market. They hold off, as a rule, until the potatoes are all dug, just to see how things are going to shape, and then they will establish a price and call the crop to market. They are doing this very thing now, so that the farmers are obliged to store their potatoes a while and handle them once extra, when, if they could draw them from the field to market direct, they would come out much better. I am aware that it is not easy to estimate the size of the crop before it is dug, but the practice is by no means in the interest of the farmer.



FORMS FOR ONE-PIECE POST AND BRACES.

The good potato farmers in western New York are getting much bigger crops this fall than they were reckoning on. If they were not they would not talk of becoming regular potato farmers in the face of apples at \$4 for fancy Kings. Potatoes do not exhaust the soil badly when properly handled, and they keep it in good physical condition. There is much complaint all thru this section of the spreading of weeds. The wild carrot is spreading in soil and nobody can fight mustard very successfully in oats or wheat. So we must fall back to hoeed crops or let the weeds have their way. The good potato farmer has no difficulty with the weed problem. If he lets weeds run over his hoeed fields he is far from a good farmer.

When I see the good yields of potatoes this fall, after such a terribly dry summer and after early frosts that killed many things that were not quite as hardy as potatoes, I feel that it is a good thing to put a little new faith in potatoes, for they are no longer "such heavy things" to get to market. The marketing has taken a long step ahead of the old days.—John W. Chamberlin, Erie Co., N. Y.

PAINTING MACHINERY.

Prevent Rust.

Outdoor exposure and vegetable juices are not the only destructive agencies acting on our tools. Electrolysis greatly increases the destructive operations of the others. These invisible currents may be set up thru contact with any substance that is electrically negative to iron. Copper and lead are good examples; lead in particular being dangerous because of its frequent use in the form of

lead paint for protecting iron surfaces. A solid shell or coating of paint preserves iron, but it assists the destroying process at every point where a rough spot or crack permits either air or water to reach the metal surface.

Perhaps a good oil varnish is the best covering for iron to prevent rust during the season when the tool is put away. It tends to crack, tho, in drying, and unless a second coat is given after the first is thoroughly dry, a good deal of destruction will go on unsuspected under the surface. In order to render the iron entirely waterproof it must be thoroughly cleaned and dried before the varnish is put on; then the varnish must be bone-dry before exposure to the weather. The cleaning is often done with kerosene or gasoline. Both are good, but turpentine is better than either, altho more expensive. By covering the more difficult parts liberally with turpentine, the gum breaks down in a few hours and may easily be removed. In some instances concentrated lye is good, as that unites with the grease and forms soap, which is easily removed. The lye itself must afterward be cleansed off very thoroughly before painting.



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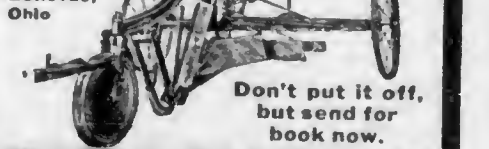
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Horticulture

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When a sufficient water supply has been provided for, the next consideration must be an engine and pump, with proper housing conditions for these articles.

The final steps in the completion of the system is the installation of posts and pipe lines over the area which it is desired to irrigate. Posts are first set for the nipple lines. The nipple lines are all drained back to the feeder line and the feeder line, in turn, to the pump house. We first set the posts for the pipe line to rest on, get the grade and then cut the post to the desired height. After the posts are set and properly graded, we equip them with hangers on which to rest the pipes. When the pipes have been put in place the holes are drilled in them, about four feet apart. The plumbing work may readily be done by farm helpers, and one man can drill from 100 to 130 holes.

We dig our post holes about 30 inches deep. For the 1-inch pipe, posts are placed 15 feet apart, and 18 feet for 1-inch pipe. The nipple lines are 40 feet apart, throwing the water 20 feet to each side of post. Each post must square 3 inches on top after having been sawed to the proper grade, no matter what the size may be at the base.

After the holes have been drilled in the pipes, and before the ends of the pipe are closed, we turn on the water and wash the pipe out thoroughly, so that there will be no trouble later due to clogged nipples.

One of the accompanying illustrations shows the pump house and the keg method which we have adopted to aid the proper distribution of water. This keg system serves two purposes, (1) to relieve friction on the nipple lines, and (2) as a swing point. It has proven very satisfactory with us. We have an acre and a quarter under irrigation. Eighty-three gallons of water a minute are necessary to supply this territory, and at this rate we have never pumped our well dry. We figure on consuming 50 gallons of water per minute on an acre of ground, when the system is in use.

The cost of installing such a system of irrigation will depend largely upon the materials used, the one who does the buying and the amount of skilled labor employed. Most of the work may be done by the farmer and his helpers.

It has been our experience that the soil must be well fed with manure in order to get the best results with the Skinner system of irrigation. Some crops also will need more water than others.

During the past year we have had under irrigation white potatoes, lettuce, cabbage, onions, eggplants, peppers, cauliflower and celery, and altho it has been our first experience with the system, we feel well repaid for its use.—Elwood Chew, Gloucester County, N. J.

THREE GOOD FARM LINES.

Some of the old farm sayings have more of truth than poetry about them. One of these is, "Don't put all your eggs in one basket." It is a homely phrase, but homely things are usually full of good sound common sense. This is no exception.

Take such a year as the present. In

many parts of the country, by reason of the dry weather, it has been a hard job to make ends meet where one depends on dairying alone. In the section where the writer lives the pastures are badly dried up, so that farmers have to feed their cows very much as they would in the dead of winter, while at the same time they are in sore straits for water. Not having any other farm line, many have been obliged to sell off their cows, the last goose that lays a golden egg.

Now, for some time we have thought that poultry was a good second for dairying. For that reason we have been



OVERHEAD IRRIGATION FOR TRUCK CROPS.
Used on Farm of Elwood Chew, Gloucester Co., N. J.

gradually adding to the number of hens kept and providing more houses. At the present time we have something like three hundred and fifty hens and perhaps more than seven hundred chicks coming on. Some of these will soon begin to lay. Last week we sent away eggs enough to come to twenty dollars. We fill about two cases a week. These are shipped to the city and sold on commission. We sort our eggs and have only hens that lay white eggs. That gives us a little the advantage over those who sell in the home market and keep all sorts of hens. This increase over the business we did when



PUMP HOUSE SHOWING KEG SYSTEM IN CONNECTION WITH SKINNER IRRIGATION.
Farm of Elwood Chew, Gloucester Co., N. J.

we first came on the farm, when we had only twenty-five hens, has given us experience as we have gone along, so that we understand how to feed and care for our larger flock better than we would otherwise.

Now, you can see how the poultry comes to be a great help in a time when dairying is getting such a black eye. We hope we will get thru without selling the cows, altho for the present that end of the business is being run at a loss; and we do not look for another such a year perhaps as long as we live. How fine it would be if every

farmer were similarly situated! Then the cows would not have to be sacrificed as they are now. It makes me feel sorry to see men selling off their cows in the tight pinch, for I know they will regret it and wish they had their cows back again in the near future; and as the shortage extends all over the country, it will be a very expensive matter to stock up again.

So we have found that poultry is a very fine mate to dairying especially in a time of stress. It is not long ago that one of our boys said, "I know the hens pay better than the cows, not only now, but right along." This opinion seems

years ago. Last fall he sold five hundred dollars' worth of apples from that orchard, which had been considered about worthless. Did it pay? Well, he thinks so. I think most of us would; and his health is a good deal better than it was, better than it would have been if he had sold off the cows, farm and all, and moved away to town to sit around and die by the inch. That he took the sensible course is surely evident to anybody who thinks and reasons things out.

Now this is a pointer for a good many other farmers. That man is not in what is called a real fruit region. The farmers round there do not pretend to do much with their orchards. They are neglected and infested with worms and bugs. But if they would only trim up their trees, spray them and set out some choice varieties of young trees it would not be many years before they could almost live without doing much, if any, work themselves. It seems to me this would be far better than to depend on just one line of farming. I admit that fruit is not a sure crop always, any more than dairying or poultry is; but the point is, to have something to fall back upon when one thing does get a black eye. We are not apt to have a year when dairying, poultry and fruit will all fail. Some one of them will most likely be profitable, no matter what may be the case with the rest. And that one thing which is doing a paying business will carry the farmer is tight place.

More and more, I see the advantage of doing a general farming. I have seen so many men come to grief who depended upon just one thing. Hundreds of men have failed in poultry because they had nothing else to live on and the hens did not do as well as they should; so we are trying to have three or four irons in the fire against the time of trouble.—E. L. Vincent, Broome Co., N. Y.

SELECTING SWEET POTATOES FOR SEED.

Only small sweet potatoes are selected for seed. Those that are commercially graded as "seconds" are about the right size. There are two reasons for selecting sweet potatoes of this size for seed: first, they produce more plants per bushel; second, they can be bedded with greater economy of bed space.

If size were the only thing to be considered, the selecting of sweet potatoes for seed would be an easy matter. But the sweet potato is subject to diseases, and it is not fixed, i. e., it is quite variable in its habits of growth.

There are several diseases to which the sweet potato is subject, but only two—stem rot and black rot—need be mentioned in this article, as they cause the greatest losses.

The loss from black rot varies with the season. If the bed is chilled in the spring, the sprouts are apt to be affected with this disease. Also, after the plants are set in the field, if there happens to come a cold damp period, the disease is likely to develop and do much damage. Even though the development of this disease does seem to depend largely upon the weather, no seed should be selected from plants showing the least trace of the black rot.

The stem rot, or "yellow rot," as it is sometimes called, is responsible for the greatest loss to sweet potato growers. It starts in the lower part of the stem and is first visible as a bluish coloration. As it develops, the leaves turn yellow and the plant finally dies.

The disease is apt to attack the plants at any stage in their growth, but it more often develops soon after the plants are set in the field. Plants that are attacked late by this disease will produce marketable potatoes, and from

an external examination, it is impossible to distinguish them from healthy sweet potatoes. The only way to be absolutely certain that the stem rot is not present in the potatoes that are selected for seed, is to split the stem of the plant upon which they grow. If the disease is present the bluish color of the inner part of the stem will reveal it.

For several years we practiced splitting the stems of every plant from which we selected sweet potatoes for seed. It required a lot of extra work, but we felt that it was worth while, if by this means, we could reduce our loss from stem rot, which, in some years past, was quite considerable. Finally we did some experimenting. We selected some seed potatoes from plants that were badly affected with the stem rot. A portion of the sweet potato bed was staked off and these diseased seed laid and treated in every respect the same as the seed that was free from disease. When it came time to pull the sprouts there was no greater percentage

tatoes for seed only from such plants as produce bright yellow stubby, or stocky, potatoes; and as the sweet potato does not seem to be a fixed type, it seems much might be accomplished toward developing a strain that would mature quickly. Sweet potatoes that are ready to harvest in August invariably pay well. A strain that would produce a large crop and mature about the last of September would also be very desirable for growers who store. Unlike the Irish potato, the sweet potato does not seem to grow any more vigorously as a result of change in environment; so the work of selecting can be carried on uninterruptedly year after year on the same farm.

The fact that the sweet potato can be improved or kept from reverting by selection, is born out in the experience of two neighboring growers. Both started a few years ago with seed from the same field. The one kept selecting his seed supply year after year from hills that produced bright yellow potatoes. The other did no selecting; he simply



GOOD SWEET POTATO HILLS FROM WHICH TO SAVE SEED.

Hill in left hand shows late maturing type; in right hand shows early maturing. Note difference in sets. Potatoes grown on farm of S. L. Kille & Son, Gloucester Co., N. J.

If plants affected with stem rot from some diseased seed than from the healthy seed. Neither did the disease develop to any greater extent in the plants from the diseased seed than in the plants from healthy seed, after they were set in the field. This result seemed unusual, and contrary to all the laws governing the transmission of disease, that the experiment was repeated several times, with the same results in every case. We were finally forced to conclude that stem rot is not transmitted through the seed to the sprout. Furthermore, we believe that the germs, if spores, of this disease live in the soil, and that healthy plants are infected by them when set in the field. Last year we planted sweet potatoes in ground that had not been planted to them for 20 or more years and very few plants died of the stem rot. We will, in the future, therefore, not bother to split stems to discover the presence of this disease, but will rather try to keep it under control by practicing long rotations in our fields.

Attention should also be paid to the type of sweet potato selected. The sweet potato is quite variable in its habits of growth. It has a tendency to revert to a type having long roots and a dark skin. For this reason it is very necessary that one should select the po-

took the potatoes as they came. In a few years the sweet potatoes of the latter became so mottled, or dark, that they were very undesirable in the market. It became necessary for him to purchase new seed stock and start over again.

The Up Rivers, a strain of the Yellow Jersey, is the most popular variety among the South Jersey growers. When it grows properly, it has dry flesh and a bright yellow skin, and is a fair keeper, although not so good in this latter respect as some of the watery fleshed varieties grown in the South.

The seed potatoes should be harvested and handled as carefully as the commercial supply intended for storage. It is always well to save more seed than is actually needed, so as to have enough should a portion be lost in storage. We have secured as many as 3,000 plants from a bushel of seed at the first pulling, but in estimating the number of bushels of seed required, it is not best to figure on more than 1,000, or at the most, 1,500 plants to the bushel.—Harris T. Kille, Gloucester Co., N. J.

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The Dairy

CONCRETE "STAVE" SILOS.

The way to get ahead on the farm is to do each job so well that it will not need to be done again. The day of temporary makeshift methods is passing, and must soon pass away on Pennsylvania farms. The accompanying illustration shows two silos on a northern Illinois farm; silos made of concrete "staves" and held together with iron hoops on the outside.

The staves are ten inches wide and thirty inches long, and the edges and ends are alternately convex and concave and fit closely. These staves are two and a half inches thick and made without reinforcement. After the silos are erected they are given a coat of thick cement wash, put on with a brush. This fills up all cracks and renders the silo air-tight. This silo is on one of the farms we visited in connection with the Conference on Permanent and Sanitary Farm Improvements, held at Chicago, August 18 to 23.

If I recall correctly, the owner of the

covers the whole question of cost of production.

Fortunately we have passed the stage when that cost is thought to cover only grain, hay and pasturage; when the manure is expected to offset the labor item, and when no account is taken of other important factors. But we have not yet gotten down to the heart of the cocoon. When the belief gets firmly rooted that no man can keep a cow today for less than \$125 per year, attention will be more critically given to all items entering in. In Massachusetts, figures, reaching back to 1896, give the average yearly expenses per cow at \$146, the average production being 6,036 lbs. of milk per head. Of course all the items are here figured as they would be in any manufacturing business, but where is the farmer ready to deny the justice of the figures, even if they have not heretofore been reckoned in their entirety? Ohio, Wisconsin, Connecticut, and other states, have, thru their students and officials, been keeping tab on these matters until there is but little difference in the results obtained.

First of all, there is demanded a clearer conception of what a good cow is. This is not a question of breed, even if certain characteristics inhere to a

continuity of effort. If a cow produces 5,000 lbs. of milk in a year, and it costs \$146 to keep her, then it is easy to see that the milk costs six cents per quart. If she gives 10,000 lbs., the cost item is cut to three cents. How many herds are there in the state, every one producing the higher figure; how many are there still around the lower? When we get the idea well rooted that it costs so much to keep a cow, there is forced at once a study of individuals which were not thought necessary before.

Here is one reason why it is of importance first of all that the cost item be determined. In determining the cost of keep of our cows, it is necessary to figure interest, depreciation of stock and buildings, repairs, board and wages of hired man, wear and tear of team and carts necessary to carry on the business, insurance, keep of bull, veterinary services, etc., together with a fair profit, to allow for contingencies not possible to be provided for. I would like to meet the man who holds that these are not just and absolutely proper charges against the business, yet how few there are who take account of them, and because they do not, fail to stand, demand and insist upon a fair living price for the product.

Until we know the cost we cannot know what to demand for the product and must be at the mercy of the buyer. Tell me, brother farmers, why good business enters the milk can when it leaves your door, but does not hold as rigidly before. If a clear insight into cow structure is demanded, surely it is equally important that the subject of rations be conquered. You ask for a balanced ration, knowing all the time that no cow will thrive if fed by any rule continuously. In the logging camps of Maine the men want baked beans, pork and brown bread, and will take that ration more regularly than any other; yet if there is not a frequent change there is sure to follow a rebellion, simply for the reason that the animal, man, must have a variety in order to keep up a physical and mental balance. It is so with the cows, and the feeder who is skillful will vary his rations, for each cow, day by day, according to what he sees to be her fancy. There is no law to lay down, for in every tie-up there must be variations for the best results to obtain.

For economic feeding there is needed, first, a knowledge of food constituents; second, an appreciation of what is wanted for milk production; third, the ability to make an appetizing ration, as palatability plays a very important part in profitable milk production; fourth, a close study of the market, that one may buy what is wanted to feed at the lowest price; fifth, a more profound spirit of dependence on the farm and less on the grain dealer.

That man who grows most of the succulent foods is the one who makes milk at the least cost. When buying mixed grains, if you buy any at all, always figure the percentage of the food nutrients given on the bag at the lowest, never at the highest, for figures are sometimes deceptive. Some day we will reach a point where the buyer will not only be told how much protein and fat there is in 100 pounds but, what is of far more importance, the sources of supply of each. Chemical analysis may find what the cow's stomach will not. Weed seeds, oat hulls, broom corn, cotton-seed hulls, and the whole list of waste products have more of profit for the mixer at the factory than for the feeder in the barn. Economy in milk production means the feeding of clean food, straight food, sound food, and never the attempt to get something for nothing. The big, flaming, high-colored poster must be paid for by the cow, and it adds to the cost of keep.

Every feeder wants to realize that it

is not a question of breed, even if certain characteristics inhere to a



CONCRETE "STAVE" SILOS ON NORTHERN ILLINOIS FARM.

farm informed us that these silos hold one hundred tons of silage each, and cost to build, about \$350. In such a silo we have permanency and economy; no wood staves to shrink and swell or blow down, and the silage keeps perfectly.—J. T. Campbell, Crawford Co., Pa.

THE KEY TO THE MILK PROBLEM.

Important as it is that we preach the gospel of co-operation and organization, it will accomplish but little until we get at the heart of the problem. One fact is evident, men who know the cost of production are pretty sure to have a sharp eye out for the price realized, while the man who does not figure the cost definitely, and accurately, trusts to luck in going to market. I cannot see that very much can be gained until we get back to the foundation and build up. The foundation is the cost of production.

Never mind if the problem be complex and difficult, it has got to be solved, and in a manner to help the man struggling for a living from his herd of cows. Rations must be studied, that the greatest economy, combined with efficiency, may obtain. Cows must be studied, not as related to breed, but simply as a factor in milk production. Methods must be studied, that time and money may be saved, while insuring the consumer a pure product. All these are essential, and a part of the bigger problem which

vision, without which there can be no

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Buy Jerseys

Dollar for dollar invested, the Jersey will earn back the amount paid for her quicker than other breeds because her product brings a higher price per quart or per pound. For the home she is unsurpassed, and her low cost of keep makes her most desirable. Write now for Jersey facts. No charge.

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Bargain in Holsteins.

We have sixty head of cows and heifers more than we can staid and will have to sell. If interested, visit immediately.

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Grandson of Hensveld Dairylead, who has 1200 daughters. Bull—Locus Pontiac Dairylead No. 1180, born Oct. 7, 1912. Three fourths white, fine individual, ready for service. Price \$125.00. Bull born Jan. 1, 1913, fifteen sisters white. Sire Angus Grace Dairylead who has 10 official tested daughters. Dam has better than 20 lbs. in 7 days. This is a show animal. Price \$175.00. 1st have more. Write us your wants.

C. L. BANKS, Locus Stock Farm, New Berlin, N. Y.

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30 cows, 20 1 and 2-yr. olds, some of them bred in bulk, ready for service; all registered, 30 high and 2 and 3 yr. old heifers bred to reg. bull; 20 extra high grade cows. High grade heifer calves \$15 each, also reg. bull and bull calves at farmer's price.

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Sired by Ouel Korndyke De Kol, No. 7726, one of the best sons of Pontiac Korndyke; from heavy milking registered cows, at reasonable price.

Donald F. McLennan, Syracuse, N. Y.

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Holstein Friesian Cattle, Royal breeding.

A. R. O. bull calves. Write HOME FARM, Center Valley, Pa.

Jerseys

—Blood of Sultan's Oxford Lad, Ouel Fern's Lad, Eminent. Calves, both sexes. Fred G. W. Runk, Allentown, Pa.

IT PAYS TO DEHORN

Dehorned cows give more milk, are less dangerous, are easily handled. Dehorned steers fatten quicker and are not dangerous. Have no money? Remove them with an Improved Keyless Dehorner.

quickest, cleanest, strongest and most satisfactory. Clean, sharp and strong cut, no crushing, no bleeding. Money back guarantee. Send for booklet.

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BOUGHT—HENS, EGGS, MILKS, DUCKS, TURKEYS, and all kinds of birds and animals.

William J. MacKenzie, Box 315, Yardley, Penna.

PLEASE Say "Saw it in Pennsylvania Farmer" when you are writing to our advertiser.

is of the highest importance that each cow in the barn is given the chance to do her best 365 days in the year; that, failing in this, the cost of keep is greatly increased and the possibilities of the animal dwarfed.

A man, whose wife wants to go to the city, came to me the other day and asked, "do you suppose you could help me to a place where I could take care of cows, for I don't want to do anything else?" That man is a dairyman and his cows are doing well. One fact to be reckoned with is that you cannot force milk from a cow; it must come by invitation. If that means anything it surely covers care, kindness, comfort, gentleness, and love for the animal, as well as a deep appreciation of the great mystery involved in the functions of milk production.

Until there is evidence of a substantial realization of the questions here presented there will be little success in any attempt to unite forces for the sale of the product. Realizing the cost, and all involved therein, the next step most natural would be that of disposal of the product. Having this knowledge it will be easy to unite upon a co-operative basis for the good of the man behind the cow. Wanting this, it will be impossible to bring and hold the producers together for concerted action.—Dr. G. M. Twichell, Maine.

POOR CREAMERY BUTTER.

Investigation by the Department of Agriculture shows that only a small percent of the butter sold at the principal butter markets can be graded as "extras." This is because much of the cream is sour and tainted when delivered at the creameries. Only poor grades of butter can be made from such cream.

In many creameries there has been no incentive for the farmer to deliver the good cream at the price he receives, as the price paid for sour, stale cream is the same as for sweet cream. Competition has driven the creamery men to accepting cream regardless of quality, age, or condition. This method of paying has resulted in poor cream and consequently poor butter.

Education of Farmer.—Thru the dairy districts, such as Iowa, Minnesota, Wisconsin, Illinois, Michigan, Ohio, etc., the farmers a few years ago delivered to the creameries clean, sweet milk, which was made into a first grade of butter that brought the highest price. Many of the same farmers are today delivering cream week old. This is done not because of lack of knowledge, but because their cream, had as it is, is accepted by the creamery. If one creamery does not accept it another will; the farmer, therefore, simply is following the lines of least resistance.

Paying for Quality.—If the creamery men would pay for cream according to true value, there would be a rapid improvement in the quality. The production of good table butter that would grade "extras" is very small. This assumption is justified by the results obtained from the introduction of the grading system in the state of Maine. The dairy authorities in that state inform us that at one time at least 90 percent of the cream was sour when it reached the creameries, but that within a short time after a system of grading was established, by which sweet cream received a premium of 2 to 3 cents per pound of butter fat, 95 percent of the cream was sweet when it reached the creamery. This condition still prevails. This simple system of grading has proved to be of mutual advantage to the creamery and their patrons in this section. The latter have received a price for their product several cents above market quotations, while the creameries

have maintained a high standard for their finished product.

An investigation of the conditions in Maine has brought out the fact that the farmers are delivering their cream only two or three times a week during the summer months, but most of it is sweet when it reaches the creamery. In fact, a large amount of this cream is used to supply the sweet-cream trade in the cities, and is from 4 to 7 days old when consumed. The Maine farmer's milk or cream is cooled immediately by being placed in ice water. The result of doing this is generally understood, but not often practiced, except on compulsion or when made remunerative to the producer.

Basis for Grading.—The plan that seems to have been most successful in operation is to make two grades of cream, No. 1 and No. 2. No. 1 cream must be sweet, with a clean flavor, and for it a premium of from 1 to 3 cents a pound of butter fat is paid. No. 2 cream may be sour, but must have a clean flavor, and for this grade a straight price based on quotations is usually paid.

Cream that is not clean in flavor and consequently not included in either of these grades is rejected. Good butter can not be made from such cream, and it is not profitable to either the producer or the manufacturer at any price.

The butter-fat content of cream is usually given some weight in grading, as it is desirable that cream may be of the proper consistency for churning without requiring either dilution or concentration. When cream is received at the creamery it is carefully inspected, the two grades being weighed, ripened, churned, and marketed separately. The butter made from the No. 2 cream will usually bring the quotation price, while the butter from the sweet cream, if properly made, will bring a premium over quotations. In this way the creamery can afford to pay its patrons a higher price for fresh, untainted raw material, and so the farmer gets some substantial reward for the care he has exercised. The consumer should be willing to pay an extra price for a clean and wholesome product handled under sanitary conditions.—Department of Agriculture News Letter.

AMERICAN POMOLOGICAL SOCIETY.

The annual Fruit Week, under the auspices of the American Pomological Society, in co-operation with the Eastern Fruit Growers' Association Society for Horticultural Science and the Northern Nut Growers' Association, will be held in the New National Museum, Washington, D. C., November 17-22. For program and full particulars address the American Pomological Society, Washington, D. C.

SEASON'S CROPS.

The government crop report for October 1 gives preliminary estimates upon the season's yields of principal crops, with comparisons with last years, as follows: (000 omitted).

	1913	1912
Corn	2,373,000	3,125,000
Wheat	753,233	730,267
Oats	1,122,139	1,414,337
Rye	34,789	35,664
Barley	173,301	223,824
Buckwheat	14,000	19,000
Potatoes	319,000	421,000
Hay	63,460	72,691
Tobacco	\$87,000	963,000

*Tons. †Pounds.

Error in Address.—The address of Stevens Brothers Company, which is advertising the Holstein bull calf sired by King Pontiac Pleione, in these columns, has been erroneously given as Liverpool, Pa. The address should have read Liverpool, N. Y.

SHARPLES MILKER

The most important factor in dairying today.

The Sharples Milker means cleaner milk—a problem of serious import to the modern dairyman. It means a large saving in milk production. And it eliminates the most disagreeable part of dairying—the drudgery of hand milking.

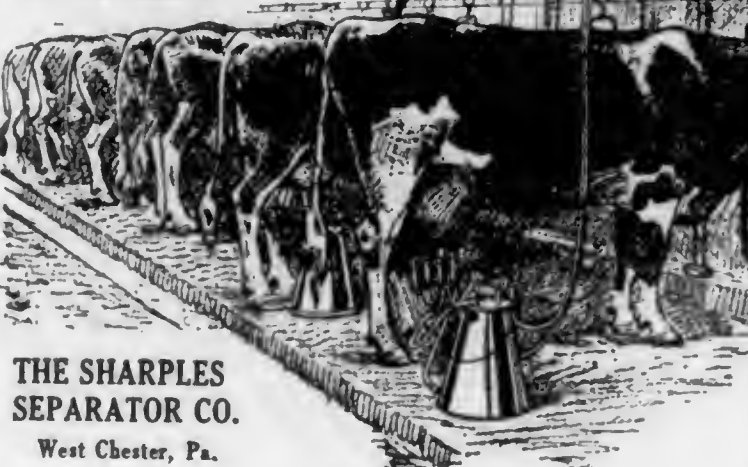
Think what it would mean to you as a dairyman to be able to save more than a third of your present payroll. Remember, too, that the Sharples Milker is on the job every day, year in and year out, saving you all kind of worry and care.

You keep your cows healthier with a Sharples Milker. Its gentle, uniform action is soothing and restful, fostering milk production and keeping teats and udders in perfect condition.

The Sharples Milker is easy to clean and keep clean. The parts that touch the milk are few and simple—quickly cleansed.

Over 80,000 cows are milked every day by the Sharples Milker—at an enormous saving of time, labor and worry to their owners.

Send for the Milker Book—it has some valuable information for cow owners.



THE SHARPLES SEPARATOR CO.
West Chester, Pa.

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More Milk!

Larro-feed is guaranteed to make your cows give More Milk

It's a straight forward, sweeping guarantee—more milk or your money back. It goes even farther—if you are not satisfied, after using 200 lbs. of LARRO-FEED, that it will pay you better profits than any other feed you've ever used—your money will be refunded without a question. Test LARRO-FEED any way you choose, but in order to get decisive results we suggest this method:

Here is the Test
Choose any one cow and record her milk yield each day for one week, on her present ration. Then change her over to LARRO-FEED gradually and allow her a week to get used to it. Then again record her daily milk yield, for a week. Compare your figures. If you're not convinced that LARRO-FEED will increase your cow's milk flow, lengthen their milking periods and keep them in better health—just say so and get your money back.

If it isn't a good feed, would we dare make such a guarantee?

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Syracuse, N. Y.
For Address Superintendent

Household

HOME REMEDIES FOR COLDS.

With the sudden changes of weather that come in the fall, colds are prevalent. Children are particularly susceptible, for they are careless about putting on jackets and hats, keeping their feet dry, and about sitting on the damp ground. If taken at the beginning, colds often yield to the simple remedies that the house mother can prepare.

Molasses Posset.—One of these remedies much prized by our grandmothers, and equally good today, is called molasses posset. It is made as follows: Take one cup of strained honey, or best Orleans molasses; one-fourth cup of butter, one onion sliced thin. Place over a slow fire and cook until the onion is tender. Strain and add 2 tablespoonfuls of vinegar or the juice of one lemon.

sugar and one-half pint of water, boiled together for five minutes and then strained, makes a good hot drink to be taken just before going to bed, after a hot mustard foot bath.

Night Cough.—Where there is a tendency to cough after going to bed, a nutmeg plaster will often do wonders towards relief. Take a piece of flannel large enough to cover the chest; spread with goose grease or lard, and grate nutmeg thickly over this. Place on the chest and cover with a cloth to protect the night clothing. Sponge the chest with tepid water the next morning, after removing the plaster, to prevent taking more cold.

Vaporizers.—Where the bronchial tubes are affected and there is hoarseness, or where there is a cold in the head, relief is often afforded by dropping a little Beechwood creosote in a pitcher or crock of boiling water, and breathing in the vapor. This should be done before going to bed and several times during the day, but it should not

tween orange juice or grape juice it goes down better. Put a tablespoonful of the juice in a small empty glass, then a tablespoonful of the castor oil, and then another spoonful of the juice, and drink down quickly.—Nevada Davis Hitchcock.

UMBRELLA CLOTHES BAR.

Every woman who appreciates the value of labor-saving devices will be pleased to know of this portable, folding clothes dryer which, when set up, stands about three feet from the floor. It has sixteen smooth finished arms which are two feet long. The arms operate independently and are of one piece of wood, and there are no balls to come off. The dryer has a revolving head, so is a step saver. Each arm can be filled without taking a step. When the clothes bar is closed it may be kept in a closet or drawer, or it will stand in any corner out of the way. It can be set up in the kitchen, the laundry, the porch, or the garden. It is a necessity in every kitchen, and it is handy everywhere.—Housekeeper.

OCCUPATION AND AMUSEMENT.

Now that there is wintry weather before us, the mother must cast about in her mind to devise suitable and yet possible means of amusement that will serve to keep the smaller children quietly in the house during the stormy days. A child's natural inclination must be considered, but nearly all children like a picture; indeed it seems to be the first thing to attract the eyes of a mere infant. Then why not cultivate that taste for the beautiful?

A box of water colors costs only a dime, a good camel's hair brush (No. 2) will cost another dime, but that 20 cents will go farther to provide amusement for a tot, or several of them, than a whole dollar invested in an assortment of cheap toys. The newspapers and magazines are full of outlined pictures that can be filled in with colors, and by giving a child the paints and brush he will set about to do the rest, and is captivated at once by the transformation he accomplishes. After awhile he will attempt to design his own framework, and thus a desire for drawing is formed, which, later on may develop into a real talent.

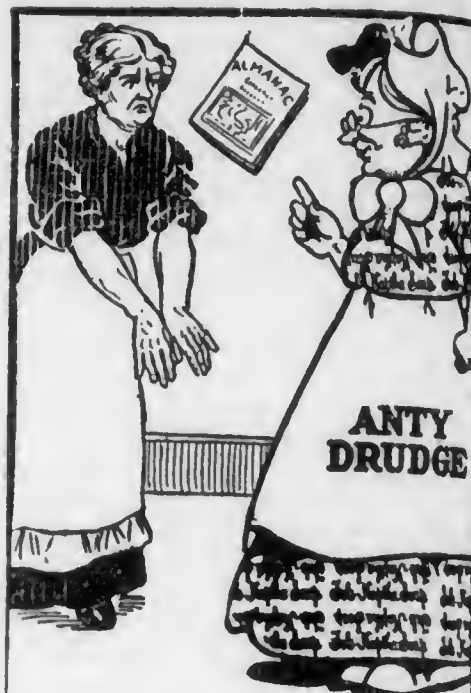
Older boys and girls become interested in this occupation, suggesting outlines of figures, animals, birds, etc., until the entire family of youngsters is drawn together around the table, all engaged in the fascinating work.

A little instruction should be given as to arrangement and harmony of colors, also praise, as well as criticism, and the child will be benefited as well as entertained.—Elizabeth.

BELTS POPULAR AGAIN.

From no belts at all to belts half a yard wide is one of fashion's freaks this year. Belts of all kinds are seen. Brilliant plaids and sober leather belts, velvet belts, ribbon belts, crushed silk belts and belts with folds; narrow belts, wide belts, belts with streamers and loops, belts with great bows and buckles are displayed on counters and are being worn by thousands. The fashion is a pretty one. Belts nearly always are becoming and add a touch of style to many a plain costume.

Another innovation in fashions for women are the fancy vests. These also come in all kinds of designs and materials, and are worn with every kind of fabric and with gowns of various designs. Some of these are quite similar to the mannish vests worn with tailored gowns some years ago. But the great majority are of plaid or bright-brocaded or embroidered silks, either worn bright



Mrs. Tiredout: "Sam here was looking over a Patent-Medicine Almanac last night and he thinks he's got all the complaints he read about, except Housemaids' Knees. He might have that, too, if he spent the time I do scrubbing and trying to keep clean. Just look at my knuckles from drubbing up and down over the washboard."

Anty Drudge: "No need for your knuckles or knees, either, to be sore. If you get a box of Fels-Naptha Soap, and use it in cool or lukewarm water for washing and all your work, you'll be rested and soon feel strong."

What part of the housework do you dread most? If it's scouring pots and pans, scrubbing floors, doing the weekly wash—no matter what it is, your work can be cut in half and made pleasant and easy if you will use Fels-Naptha Soap in cool or lukewarm water.

Fels-Naptha dissolves grease, makes dirt disappear, takes out all kinds of stains. No hard rubbing or boiling of clothes is needed if Fels-Naptha Soap is used. Full directions are on the red and green wrapper.

Better buy it by the carton or box
Fels & Co., Philadelphia.



and dazzling or softened down with chiffon. A beautiful gown displayed in a shop window was of dull green charmeuse with a blouse cut jacket style, and with a vest of Persian embroidery softened with chiffon, same shade as the silk.—N. H.

SOME RICE DISHES FOR FARMERS' WIVES.

With rice for a foundation, we can make some very attractive and nutritious dishes. In these days of expensive living, we have learned to very often leave meat from our list of necessities and yet enjoy an attractive meal. I occasionally use rice croquettes for a substitute. There are eight of us in the family, so I have to make rather many. Whenever I use a meat substitute, it is carefully placed on a relish dish, and, if possible, garnished with parsley, celery or hard-boiled eggs. A relish dish suggests a meaty dish. A housekeeper and homemaker must always be on the lookout for attractive dishes. I listen carefully when a friend speaks of some new concoction, especially if there are thrills in her voice and a glad light in her eyes. Reading the signs, I ask for the recipe. Perhaps the busy wife of some farmer will find something new amongst these recipes:

Rice Croquettes.—One cup cooked rice, one teaspoonful of hot milk, one-half egg well beaten, one-half teaspoon of butter, one-fourth teaspoon of salt, one teaspoon finely chopped parsley and a few grains cayenne. When thoroughly mixed, shape into cones or little cakes; dip in fine crumbs, then in beaten egg, then in crumbs again. Fry in deep fat.

Peppers Stuffed With Rice.—One cup of cooked rice, four teaspoons melted butter, one teaspoon onion juice, four tablespoons tomato juice, one-half teaspoon of salt. Carefully remove seeds from sweet peppers and place on stove in boiling water. If they are tender when stuck with a fork, pour water off and fill with the above rice mixture. Bake in oven twenty to thirty minutes.

Casserole of Rice and Meat.—Now, I will add another recipe which will use the little piece of soup meat you often have in your pantry: Two cups cooked meat, one teaspoon of salt, one-fourth teaspoon of pepper, one-fourth teaspoon of onion juice, or a fine chopped onion, one tablespoon of chopped parsley, one egg, one-fourth cup fine bread crumbs (soft), four cups of rice (one cup uncooked).—Elizabeth Jean, Md.

NEW NECKWEAR.

Everything in the newest neckwear for women is soft and fine and frilly. The turn-over collars are of the sheerest materials, net, fine lawn or laces. And while the Irish crocheted collars are worn and are likely to remain favorites with some, the chiffon rouchings or plaited footings are taking their place in favor with the majority of women.

Many of the new collars, and waists as well, are made in fichu effect. One particularly popular style has a wide turn over collar of some sheer material, either net or Persian lawn, plain or figured; and coming out from under the end of the turn-over collar is a short fichu of plain net with a plaited rouching of footing or lace. Sometimes the plaited collar too.

These plaited ruffles of net, lawn, chiffon or lace are used in trimming the new lingerie waists. They are put on around the neck and down the front of the waist with a fichu effect. These are especially becoming to young faces.

High double rouchings, with a narrow band of black velvet dividing the rouchings, is one of the new features in neckwear. More properly speaking, they are a revival of an old fashion that pre-

vailed about thirty years ago. These rouchings fit the neck at the back, but come to a V-shape in front, leaving the neck exposed. Some of these rouchings are shown with narrow dividing bands of feathers or fur. Some of the new very thin lingerie waists are trimmed with feather and fur bands also, but the contrast is rather incongruous.—N. D. H.

Celery Soup.—Two cupfuls of celery, one quart of cold water, two slices of onion, four tablespoonfuls of butter, two tablespoonfuls of flour, two cupfuls of scalded milk, one and one-half teaspoonfuls of salt, one blade of mace, cayenne, and celery salt. Chop celery; cook in water until tender. Cook onion and mace in milk twenty minutes; strain. Melt butter; add flour and seasonings. Combine celery and milk mixtures, thicken with butter and flour, cooked together. Cook five minutes and serve.

Alum as a Solder.—Several of our door knobs pulled off, and as they had been put on with solder I found it rather difficult at first to put them back on. I finally melted some alum and poured a little of it in each of the knobs and stuck them back while the alum was hot. They stuck securely. In fact, they seem to stick as well with alum as with solder. I have fastened lamp burners on the lamp bowl securely with melted alum. Broken glassware and chinaware can be mended by sticking them together with white lead and setting them away until the white lead gets dry.—A. J. Legg.

PENNSYLVANIA FARMER PATTERNS.

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt and age for children's patterns. Address: Pennsylvania Farmer, 214-18 So. 12th St., Philadelphia, Pa.



6405—Girls' Dress.—Four sizes, 6 to 12 years. Age 8 requires 3 yards of 36-inch material. Price 3 pattern, 10 cents.

6427—Ladies' Dress.—Five sizes, 34 to 42 inches, bust measure. Size 36 requires 2 1/2 yards of 54-inch plaid material, 1 1/2 yards of 54-inch plain goods. Price, 10 cents.

6036—Girls' Dress.—Sizes 6, 8, 10 and 12 years. Age 8 requires 2 1/2 yards of 44-inch goods. Price, 10 cents.

5726—Children's Box Coat, With Double Collar.—Sizes 6, 8, 10 and 12 years. Age 8 requires 2 1/2 yards of 44-inch goods. Price, 10 cents.

5693—Ladies' Waist, to be Worn with Empire Skirt.—Cut in 6 sizes, 32 to 42 inches, bust measure. Size 36 requires 1 1/2 yards of 36-inch material, with 1/2 yard of 36-inch mull; 1/2 yard, 18 inches all-over. Price, 10 cents.



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The Road Bond Amendment

Reasons for Opposing It

A FINAL WORD ON THE BOND ISSUE.

From time to time, during the last months, I have tried to put before the readers of the Pennsylvania Farmer the argument against the bond issue. The grange has made a determined fight against this vicious proposition and it looks as tho they, with the others who have fought, would rejoice in a sweeping victory. Right here, as a granger, I want to register my appreciation of the way the Pennsylvania Farmer has, with editorial and news columns, helped in the good fight against this evil.

I take two agricultural weeklies, the Pennsylvania Farmer, and another farm journal, which is supposed to champion the farmers' interests in the state, and I must say that on this subject the latter reads more like an apology for public graft than an up-to-date disseminator of healthy agricultural news. I dislike to say this, as I like the genial editor of the latter paper, but I think he is not a good granger on this proposition.

It has been said by the speakers sent over the state in favor of the bond issue that if the grangers opposed it they should have said so long ago. In order that all who read this may see how consistent has been the position of the grange on this question, here are a few actions of State Grange taken from the Journal of proceedings. In the sessions of 1903 and '04 the following is a part of the Legislative Committee's report adopted by State Grange:

"All the people have equal rights to the public roads and we can not understand why the farmers should alone have been compelled to build and maintain them. Good roads are also of equal importance to all interests, therefore, no class of property should refuse to assist in paying for them. When in support of this position your Legislative Committee asked the Legislature to tax personal and corporate property, including manufacturing corporations, the small sum of one mill for road purposes, the legislature failed to pass it. Such a tax would yield at least two and one-half millions of dollars annually. Under our present system of taxation we still contend that this is the right way to raise money from these interests for road purposes. It must be kept in mind that good roads cost money and lots of it."

In the session of 1906, after again demanding one mill on personal and corporate property for roads, the State Grange adopted the following: "The State road law needs some radical changes because it is impossible for the State department to build roads in 67 counties in the state at the same time, unless it has a regiment of men at Harrisburg. This is too expensive and slow business. The red tape around this law must be removed. The money should be paid direct to the counties; the department having the overseeing power with the right to withhold the appropriation if a road is not properly built. This department should be similar in its workings to the school department."

From the report of the 1908 session the following was taken: "The contemplated state road from Philadelphia to Pittsburgh is, on the statement of a president of the National Automobile Association, only a part of a large plan for a boulevard from New York to Chicago. We favor no expenditure of

the state's money that is not equitably distributed among the counties of the state. We are unalterably opposed to involving the taxpayers of the state in an interest-bearing bonded debt. The old bonded debt of the state in 1843 reached its maximum, which was over \$42,000,000. This debt was created for the building of public works. It has taken us 64 years to extinguish it, at the cost of our public works and an interest of \$52,500,000. The building of the public works created endless scandal, and the building of the state capitol has created a greater scandal, and the state has not thus far shown its ability to bring to justice those who robbed the state of its money and fair name. And these historical conditions only emphasize our opposition to this \$60,000,000 proposition."

In the report of 1910 we find these statements: "We are not interested in boulevards, state or national, but we are intensely interested in good roads to railroad, creamery, and other places of local business. We need not repeat that our present system of macadam road is a luxurious failure. We do not stand for a moment for any proposition to bond the state for the building of roads."

In the 1912 session the question of roads is discussed more fully, and opposition to bonds stated, but we think that it is unnecessary here to add that lengthy quotation. What has been quoted shows that the grange was alive to the matter years ago, even before the present administration was elected, and each year has added to the strength of their position.

When we realize that it is the farms and other real estate in the country that has, thru the years gone, borne the brunt of road building and maintenance, it is encouraging to note that this great farmers' organization has maintained such a clear-cut policy that seems more than ever the proper solution of the question today.

And now, as a final summing up of the argument, I can put it in no more official or comprehensive way than as sent out October 22 from the State Master's office:

Twelve Reasons

Why Pennsylvania State Grange opposes \$50,000,000 Loan for road purposes. The Grange has been the pioneer of the good roads movement, but it is opposed to the bond issue:

First.—It is not a good business proposition for any business to borrow money when it is not necessary. The State has abundant resources to construct roads without borrowing a dollar. We can now raise from current revenues from \$5,000,000 to \$8,000,000 annually.

Second.—Should more money be needed, the State Grange proposed a plan many years ago providing for a tax of one mill on corporate property. The Tax Commission reported to the last Legislature to the effect that if the bonds of corporations were taxed in the hands of corporations in place of the hands of the holder, \$10,000,000 more could be added. Ex-Auditor Generals, Young and Sisson, said that even under present laws, with the necessary help, several millions could be added.

Third.—Every cent of the tax on anthracite coal should go on the roads—that was the understanding. The Legislature appropriated for road purposes for 1913-14, \$3,385,000 per year. Add to this the automobile licenses and we have \$4,500,000 for roads annually. This answers the argument of our auto-

mobile friends who say \$5,000,000 is all any highway department can spend intelligently and economically. Why borrow?

Fourth.—The interest and sinking fund charges on a \$50,000,000 loan will require from \$3,000,000 to \$3,500,000 annually. On 50-year bonds the interest charges and principal would cost us \$150,000,000 until paid. Why not pay as you go instead of working for a dead horse?

Fifth.—Years ago the State borrowed at various times sums amounting to about \$50,000,000 for our public works, canals, etc. The interest and sinking fund charges, plus the cost of repairing and maintaining them, became so burdensome to the people that they were finally sold at a trifle. Shall we repeat that experiment?

Sixth.—Before submitting this question to the people some plan should have been worked out by the highway department so that the voters could vote intelligently. As the law now stands, this money, if the bond issue is carried, can all be spent in one county or used to build a national boulevard across the State. This may be a part of the plan of those who originated the bonding proposition.

Seventh.—The highway department has proved itself inefficient and wasteful. It has disobeyed the law in not preparing bulletins to systematize and instruct township supervisors. It has issued no report since 1909. Mr. Bigelow claims to have built since June, 1911, 297 miles of roads; the Auditor General's figures show 104 miles. Who is correct? The prices paid for roads for 1912-13 averages \$20,000 per mile plus the extras and the overhead charges. Does any one know where we are at?

Eighth.—The big corporations are for the bond issue in order to head off any change in the tax laws. The argument that the farmer pays no state tax is true as a direct proposition, but indirectly he pays not only his local taxes but is charged up with the taxes on corporations, either in added freight rates or decreased appropriations for schools and dirt roads. But if corporations pay for the good roads, let them pay as we go. It will be cheaper and save a lot of book-keeping.

Ninth.—New York has borrowed \$100,000,000 for roads and road scandals. Ohio has borrowed no money and has three times as many miles of good roads as has New York. Ohio has equalization of taxation. All kinds of property pays the same mill rate and the maximum mill rate is fixed at 103 mills. It is the same rate on a railroad as it is on a farm. The average mill rate on Pennsylvania farms is 18, and on corporate property 3 mills.

Tenth.—The permanent road has not yet been discovered. Our expensive roads are lasting from two to ten years. It is a wrong principle to issue long time bonds for improvements that will be gone long before the bonds are due.

Eleventh.—The farmers of the State have been deceived, ignored and bullied in this whole road business. State aid for township roads provided by law has been refused, the township roads stolen, and now, under the new Township Road law, passed at the last session of the Legislature, the local road taxes are to be spent under the orders of the highway department. This department has neglected to maintain and keep in repair the roads now in their possession, and seems to know nothing about our dirt roads. Has no plans. It has now about 125 office holders and clerks at Harrisburg, plus about 4,000 scattered over the state.

Twelfth.—The Grange believes that by defeating the bond issue the confusion and chaos in our road affairs will

be systematized and all our roads improved in the course of 10 or 12 years, so that legislation can be passed to protect our roads and keep them in repair at the lowest possible cost."

But information is not enough. Only votes will count on November 4. This is an extremely vital question, and the people should emphatically block this cowardly attempt to tax generations yet unborn.—John A. McSparran.

THE PLEA AND ANSWER FOR THE BOND ISSUE.

The road bond boosters, thru campaign speeches and literature, offer, in effect, the following pleas for the bond issue:

First, we are behind other states in the matter of roads; good roads will increase community wealth and permanent values; the bond issue will bring us good roads.

Second, the period of incompetence, graft and dishonesty in road building is past; the proceeds of the bond issue will be spent by a new Highway Commissioner, under direction of a new Governor. Third, the bond issue will not cost the farmer a penny. Fourth, the "men and organization who have for years been at work to secure good roads" * * * and who have given freely of their time and money * * * have formulated wise plans for the expenditure of the funds."

The Answer.

First, admitting that we are behind the times in road construction, that good roads mean wealth, etc., it does not follow that the passing of the bond issue means good roads. Mr. Bigelow has spent \$9,000,000 on roads, speedways for automobiles; and they are going to pieces. He has spent already as much as would be required (\$100 per mile) to make the entire 90,000 miles of road in this state the finest system of dirt roads in existence anywhere. Had that been done, hundreds of millions of dollars increase in production and land values would already have resulted.

Second.—Whose assurance have we that the proceeds of the bond issue will be better spent than that \$9,000,000? The Governor promises not to call an extra session. He promised to veto the iniquitous "Five Judges Bill," and then signed it at the behest of the same gang of politicians which is today fighting to the last ditch to put thru this bond issue. If the Governor chooses, he can call an extra session and procure (using the \$50,000,000 as grease) such legislation as he wants. Bigelow has already contracted in advance for every penny of income coming to his department for road construction. HE CAN DO THAT WITH THE WHOLE \$50,000,000 if an extra session is called—and we have only a politician's word; "a reed shaken with the wind." Why IS THE GANG SO ANXIOUS TO PUT OVER THE BOND ISSUE IF IT IS TO HAVE NO FINGER IN THE PIE AT CUTTING TIME? WHY BIGELOW'S ANXIETY? Think hard over the last few statements.

Third.—So the bond issue is not to cost the farmer a penny. Suppose he has money at interest? He ought to have, after all these new values he is promised are created for him? Or suppose, as the fact surely will be, that, after spending this \$50,000,000 and finding ourselves in the hole, and saddled with the enormous maintenance expense of the highway system, a future legislature changes, as it can, the present system of taxation. The \$50,000,000 is wanted, not for developing the roads for the farmer, but for construction of speedways, of little value to the farmer.

Fourth.—What are the "wise plans" formulated by this crowd of men who have so generously contributed of their

time and money to solve for us our road problems? Who is the crowd? Why the crowd? What are its plans? Haven't we had enough of being governed by groups of men who "spent freely of their time and money" to relieve us of the cares of self-government? Do we want to vote \$50,000,000 to be spent by a group of undisclosed men, who have privately devised "wise plans" for spending it?—Farmer.

USE OF PRESENT ROAD FACILITIES.

The story of the man who had his house overrun with rats is doubtless familiar to many readers. The rats gnawed a hole in a one-inch lead pipe, behind a cupboard. The house owner called in a plumber, who declared that it would first be necessary to procure a carpenter to remove the cupboard and to take up the boarding of the floor; the removal first of one piece of piping which was connected with an elbow containing three joints. These three joints would have to be likewise replaced, costing about \$15. A second plumber estimated about the same figure. This disgusted the proprietor, and he went to the nearest hardware store. Calling the proprietor, he said: "Have you a man who can solder a piece of metal one inch square over a leaking lead pipe which has been gnawed by some rats?" "Sure," declared the hardware owner, "I'll send him right along with you." The hardware man did so, and the job was completed within a few minutes, and cost 75 cents.

The moral of this story, when applied to the state highway department, is quite clear. The department is a good deal like the plumber. Nothing can be done until a lot of extra expenses are involved. The spirit of getting a practical result with our present highway facilities does not seem to enter into the situation. The farmer needs a practical highway official who can take hold of conditions as they exist right now, and can immediately apply a practical remedy.

The proposition of issuing \$50,000,000 in bonds to fix our roads will not give the country by-roads any better improvements than we now have. The fund is meant to be applied to the building of stone highways. What we country folks need is our country earth by-roads repaired by proper drainage and by continual dragging. The machinery to do this exists in every township. All that is necessary is for the highway department to get the thing organized and put it into practical operation.

I believe that our country earth road improvement depends upon three things. One is the interest taken in our local township road affairs by the township road supervisors, elected to make good on their respective jobs as road makers. The second is the popular interest taken in the work of these officials by the common people who pay the taxes to the community. The third is the co-operative effort put behind the road improvement problem by the delegated highway department officials located at Harrisburg. If these three elements are made to work in common accord, our country earth roads, which are over 80 percent of the roads used by the farmers, can be put into good condition at once. It will not require a \$50,000,000 bond issue to do this.

Further, we want to get this idea clearly into your minds: The issue of a bond series is not going to induce the highway officials to give the township roads any more attention than they have been getting. It isn't money which our country earth roads need; it's work. The spirit of the whole situation can readily be summed up in the

practical man sent by the hardware merchant to repair the leaking water pipe.—Dr. Donald McCaskey, Lancaster Co., Pa.

NO EXTRA SESSION (?)

Now comes J. H. Weeks, Chairman of the State Good Roads Committee, and in a circular informs us that the Governor publicly promised in a speech of September 18th, and also assured him (the said Weeks) that no extra session would be called. The whole document is luminous with folly. Of course we all know that the Governor promised the Philadelphia newspapers that he would not sign the corrupt five-judges bill, and we all know that he did sign it; yet he will not, of course, having said he would not, call this extra session.

Also, we are told that roads do not offer the same chance for graft as furniture, because roads are built in the open. I wish the honorable and fatuous Chairman had seen some of this "open" road building, had checked up the outrageous overcharges for it, had seen the insolent soldiering on the part of contractors and employees under Bigelow's percent system, and had noted the condition of the same high-priced roads after a single year's use. Perhaps he would not then bring to the attention of the farmer the "fact" that graft cannot apply to road making. The entire document amounts really to an apology for dishonest and incompetent work heretofore, and a promise, based on the word of those who are responsible for the shameful past, that there will be no opportunity given for such work in the future.

But there is an even more curious and unfortunate side light thrown on the situation by this remarkable plea of the Hon. Weeks. Answering the claim that work on state roads has been stopped to force the people to vote for the bond issue, he shows that the real reason for stoppage is that all funds available for this purpose have been entirely wiped out. And there lies the crux of the whole matter. Mr. Bigelow has found a way to spend money far in advance of its receipts, to bind the State by contracts for future revenues. Why then is the gang working tooth and nail for the passage of the bond issue? Simply because it will then be within its power, with a complaisant Governor, TO SPEND IN ADVANCE EVERY DOLLAR OF THE BOND ISSUE.

Do you think they will not have the nerve to call that extra session, use the power given by the practical possession of that \$50,000,000 to procure such legislation as is needed to allow Bigelow to handle all of that \$50,000,000? Just think over the record of the past; remember that the organization is desperate, resolved to keep itself in power at all hazards; that it must keep itself in power to prevent another such scandal and prosecutions as followed the election of Mr. Berry. And then make up your mind whether you want that crowd to handle the \$50,000,000.

Pennsylvania is up against exactly what New York was a few weeks ago. Governor Sulzer was allowed to stay in office until he did the one thing that the gang there could not and would not stand for, permitted an investigation of the road contracts on the New York Bond Issue and refused to allow the gang to continue disbursing the road money.—Constant Reader.

Liability Law Tinkering.—The commission in charge of drafting a liability law will probably get together this winter. Already there are rumors of some "adjustments" of its bill of 1913, but little disposition to take care of the small manufacturer, householder or farmer.

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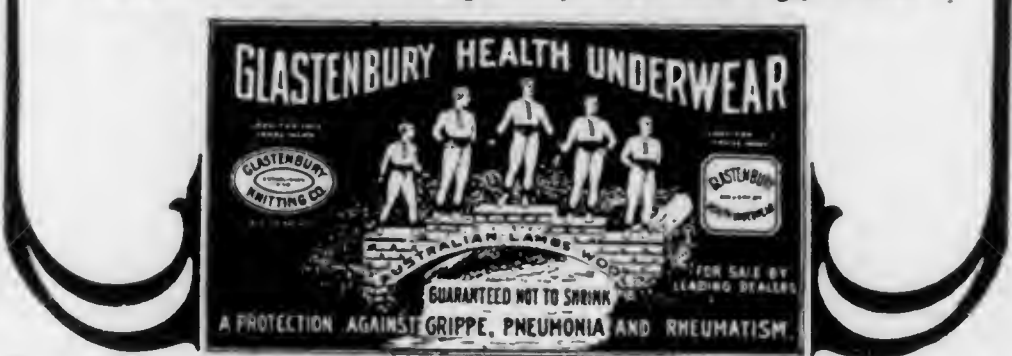
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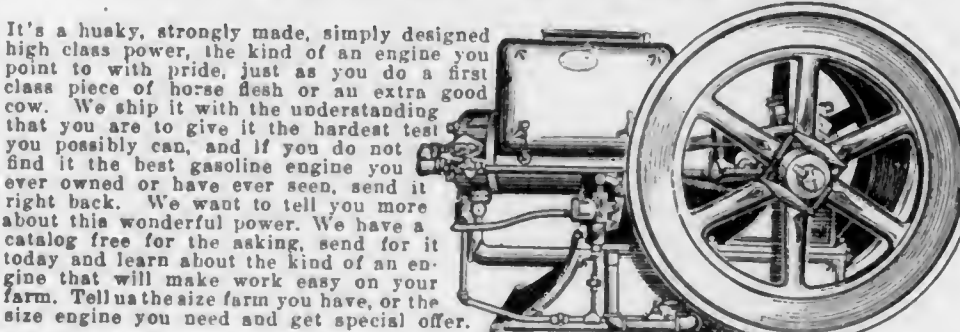
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Winston of the Prairie

By HAROLD BINDLOSS

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SYNOPSIS OF PREVIOUS CHAPTERS.

Farmer Winston, having failed as a homesteader, desperate, accepts a proposal to simulate Lance Courthorne, an adventurer. Courthorne and his pals are thus able to smuggle thru some illegal distillery products. In the clash with the police, Courthorne kills Trooper Shannon, leaving evidence pointing to Winston as the murderer. The scene shifts to Silverdale, a Canadian settlement, to which Maud Barrington, niece and ward of Colonel Barrington, founder of Silverdale, has just returned after a visit to Montreal. The colonel, worried over a drop in wheat prices and the coming advent of Lance Courthorne, Miss Barrington's cousin, to claim his share of his father's estate, has refused offers and advice coming from a Winnipeg grain broker. Maud Barrington, in a frank conversation with her aunt, learns much of Courthorne's unsavory past. Winston, in the meantime, pushes on to Montana, is held for Courthorne by an officer of the government patrol, who discloses to him the belief on the part of the police that Winston is the murderer of Trooper Shannon. Mail for Courthorne is opened by Winston. Complying with a request in the letter, he meets a lawyer in another town to confer with him respecting certain suggestions made by a Colonel Barrington.

CHAPTER VII.—(Concluded.)

"Altho I have never had the pleasure of meeting you before, I have acted as Colonel Barrington's legal adviser ever since he settled at Silverdale, and am, therefore, well posted as to his affairs, which are, of course, connected with those of your own family," said the lawyer. "We can accordingly talk with greater freedom, and I hope without the acerbity which in your recent communications somewhat annoyed the Colonel."

"Well," said Winston, who had never heard of Colonel Barrington, "I am ready to listen."

The lawyer drummed on the table. "It might be best to come to the point at once," he said. "Colonel Barrington does not deem it convenient that you should settle at Silverdale, and would be prepared to offer you a reasonable sum to relinquish your claim."

"My claim?" said Winston, who remembered having heard of the Silverdale Colony which lay several hundred miles away.

"Of course," said the lawyer. "The legacy lately left you by Roger Courthorne. I have brought you a schedule of the wheat in store, and amounts due to you on various sales made. You will also find the acreage, stock, and implements detailed at a well-known appraiser's valuation, which you could of course confirm, and Colonel Barrington would hand you a check for half the total now. He, however, asks four years to pay the balance in, which would carry bank interest in the meanwhile."

Winston, who was glad of the excuse, spent at least ten minutes studying the paper, and realized that it referred to a large and well-appointed farm, though it occurred to him that the crop was a good deal smaller than it should have been. He noticed this as it were instinctively, for his brain was otherwise very busy.

"Colonel Barrington seems somewhat anxious to get rid of me," he said. "You see, this land is mine by right."

"Yes," said the lawyer. "Colonel Barrington does not dispute it, though I am of the opinion that he might have done so under one clause of the will. I do not think we need discuss his motives."

Winston moistened his lips with his tongue, and his lips quivered a little. He had hitherto been an honest man, and now it was impossible for him to take the money. It, however, appeared equally impossible to reveal his identity and escape the halter, and he felt that the dead man had wronged him horribly. He was entitled at least to safety by way of compensation, for by passing as Courthorne he would avoid recognition as Winston.

"Still I do not know how I have offended Colonel Barrington," he said. "I would sooner," said the lawyer, "not go into that. It is, I fancy, fifteen years since Colonel Barrington saw you, but he desired me to find means of tracing your Canadian record, and did not seem pleased with it. Nor, at the risk of offending you, could I deem him unduly prejudiced."

"In fact," said Winston dryly, "this man who has not seen me for fifteen years is desirous of withholding what is mine from me at almost any cost."

The lawyer nodded. "There is nothing to be gained by endeavoring to controvert it. Colonel Barrington is also, as you know, a somewhat determined gentleman."

Winston laughed, for he was essentially a stubborn man, and felt little kindness towards any one connected with Courthorne, as the Colonel evidently was.

"I fancy I am not entirely unlike him in that respect," he said. "What you have told me makes me the more determined to follow my own inclination. Is there any one else at Silverdale prejudiced against me?"

The lawyer fell into the trap. "Miss Barrington, of course, takes her brother's view, and her niece would scarcely go counter to them. She must have been a very young girl when she last saw you, but from what I know of her character I should expect her to support the Colonel."

"Well," said Winston, "I want to think over the thing. We will talk again tomorrow. You would require me to establish my identity, any way?"

"The fact that a famous inquiry agent has traced your movements down to a week or two ago, and told me where to find you, will render that simple," said the lawyer dryly.

Winston sat up late that night turning over the papers the lawyer left him and thinking hard. It was evident that in the meanwhile he must pass as Courthorne, but as the thought of taking the money revolted him, the next step led to the occupation of the dead man's property. The assumption of it would apparently do nobody a wrong, while he felt that Courthorne had taken so much from him that the farm at Silverdale would be a very small reparation. It was not, he saw, a great inheritance, but one that in the right hands could be made profitable, and Winston, who had fought a plucky fight with obsolete and worthless implements and indifferent teams, felt that he could do a great deal with what was, as it were, thrust upon him at Silverdale. It was not avarice that tempted him, though he knew he was tempted now, but a longing to find a fair outlet for his energies, and show what, once given the chance that most men had, he could do. He had stinted himself and toiled almost as a beast of burden, but now he could use his brains in place of wringing the last effort out of overtaxed muscle. He had also during the long struggle lost to some extent his clearness of vision, and now he saw himself as a lonely man fighting for his own hand with fate against him. Now, when prosperity was offered him, it seemed but folly to stand aside when he could stretch out a strong hand and take it.

During the last hour he sat almost motionless, the issue hung in the balance, and he laid himself down still undecided. Still, he had lived long in primitive fashion in close touch with the soil, and sank, as most men would not have done, into restful sleep. The sun hung red above the rim of the prairie when he awakened, and going down to breakfast found the lawyer waiting for him.

"You can tell Colonel Barrington I'm coming to Silverdale," he said.

The lawyer looked at him curiously. "Would there be any use in asking you to reconsider?"

Winston laughed. "No," he said. "Now, I rather like the way you talked to me, and if it wouldn't be disloyalty to the Colonel, I should be pleased if you would undertake to put me in due possession of my property."

He said nothing further, and the lawyer sat down to write Colonel Barrington.

"Mr. Courthorne proves obdurate," he said. "He is, however, by no means the type of man I expected to find, and I venture to surmise that you will eventually discover him to be a less undesirable addition to Silverdale than you are at present inclined to fancy."

CHAPTER VIII.
Winston Comes to Silverdale.

There was warmth and brightness in the cedar-boarded general room of Silverdale Grange, and most of the company gathered there basked in it contentedly after their drive through the bitter night. Those who came from the homesteads lying farthest out had risked frost-nipped hands and feet, for when Colonel Barrington held a levee at the Grange nobody felt equal to refusing his invitation. Neither scorching heat nor utter cold might excuse compliance with the wishes of the founder of Silverdale, and it was not until Dane, the big middle-aged bachelor, had spoken very plainly, that he consented to receive his guests in time of biting frost dressed otherwise than as they would have appeared in England.

Dane was the one man in the settlement who dare remonstrate with its ruler, but it was a painful astonishment to the latter when he said in answer to one invitation, "I have never been frost-bitten, sir, and I stand the cold well, but one or two of the lads are weak in the chest, and this climate was never intended for bare-shouldered women. Hence, if I come, I shall dress myself to suit it."

Colonel Barrington stared at him for almost a minute, and then shook his head. "Have it your own way," he said. "Understand that in itself I care very little for dress, but it is only by holding fast to every traditional nicety we can prevent ourselves sinking into Western barbarism, and I am horribly afraid of the thin end of the wedge."

Dane having gained his point said nothing further, for he was one of the wise and silent men who know when to stop, and that evening he sat in a corner watching his leader thoughtfully, for there was anxiety in the Colonel's face. Barrington sat silent near the ample hearth whose heat would scarcely have kept water from freezing but for the big stove, and disdaining the dispensation made his guests, he was clad conventionally, though the smooth black fabric clung about him more tightly than it had once been intended to do.

His sister stood, with the stamp of a not wholly vanished beauty still clinging to her gentle face, talking to one or two matrons from outlying farms, and his niece by a little table turning over Eastern photographs with a few young girls. She, too, wore black in deference to the Colonel's taste, which was somber, and the garment she had laughed at as a compromise left uncovered a narrow strip of ivory shoulder and enhanced the polished whiteness of her neck. A slender string of pearls gleamed softly on the satiny skin, but Maud Barrington wore no other adornment, and did not need it. She had inherited the Courthorne comeliness, and the Barringtons she sprang from on her father's side had always borne the stamp of distinction.

A young girl sat at the piano singing in a thin reedy voice, while an English lad waited with the ill-concealed jealousy of a too officious companion to turn over the music by her side. Other men, mostly young, with weather-bronzed faces, picturesque in embroidered deer-skin or velvet lounge jackets, were scattered about the room, and all were waiting for the eight o'clock dinner, which replaced the usual prairie supper at Silverdale. They were growers of wheat who combined a good deal of amusement with a little, not very profitable, farming, and most of them possessed a large share of insular English pride and a somewhat depleted exchequer.

Presently Dane crossed over, and sat down by Colonel Barrington. "You are silent, sir, and not looking very well to-night," he said.

Barrington nodded gravely, for he had a respect for the one man who occasionally spoke plain truth to him. "The fact is, I am growing old," he said, and then added, with what was only an apparent lack of connection, "Wheat is down three cents, and money tight-r than ever."

Dane looked thoughtful, and noticed the older man's glance in his niece's direction, as he said, "I am afraid there are difficult times before us."

"I have no doubt we shall weather them as we have done before," said the Colonel. "Still, I can't help admitting that just now I feel—a little tired—and am commencing to think we should have been better prepared for the struggle had we worked a trifle harder during the recent era of prosperity. I could wish there were older heads on the shoulders of those who will come after me."

Just then Maud Barrington glanced at them, and Dane, who could not remember having heard his leader talk in that fashion before, and could guess his anxieties, was a little touched as he noticed his attempt at sprightliness. As it happened, one of the lads at the piano commenced a song of dogs and horses that had little to recommend it but the brave young voice.

"They have the right spirit, sir," he said.

"Of course!" said Barrington. "They are English lads, but I think a little more is required. Thank God we have not rated the dollar too high, but it is possible we have undervalued its utility, and I fear I have only taught them to be gentlemen."

"That is a good deal, sir," Dane said quietly.

"It is. Still, a gentleman, in the restricted sense, is somewhat of an anachronism on the prairie, and it is too late to begin again. In the usual course of nature I must lay down my charge presently, and that is why I feel the want of a more capable successor, whom they would follow because of his connection with mine and me."

Dane looked thoughtful. "If I am not taking a liberty—you still consider the one apparently born to fill the place quite unsuitable?"

"Yes," said Barrington quietly. "I fear there is not a redeeming feature in Courthorne's character."

Neither said anything further, until there was a tapping at the door, and though this was a most unusual spectacle on the prairie, a trim English maid in white-handled dress stood in the opening.

"Mr. Courthorne, Miss Barrington," she said.

Now Silverdale had adopted one Western custom in that no chance guest was ever kept waiting, and the music

ceased suddenly, while the stillness was very suggestive, when a man appeared in the doorway. He wore one of the Scandinavian leather jackets which are not uncommon in that country, and when his eyes had become accustomed to the light, moved forward with a quiet deliberation that was characterized neither by graceful ease nor the restraint of embarrassment. His face was almost the color of a Blackfoot's, his eyes steady and gray, but those of the men who watched him were turned the next moment upon the Colonel's sister, who rose to receive him, slight, silver-haired, and faded, but still stamped with a simple dignity that her ancient silks and laces curiously enhanced. Then there was a silence that could be felt, for all realized that a good deal depended on the stranger's first words and the fashion of his reception by Miss Barrington and the Colonel.

Winston, as it happened, felt this too, and something more. It was eight years since he had stood before an English lady, and he surmised that there could not be many to compare with this one, while, after his grim lonely life, an intangible something that seemed to emanate from her gracious serenity compelled his homage. Then as she smiled at him and held out her hand, he was for a moment sensible of an almost overwhelming confusion. It passed as suddenly, for this was a man of quick perceptions, and remembering that Courthorne had now and then displayed some of the grace of by-gone days he rebelled to a curious impulse, and, stooping, kissed the little withered fingers.

"I have," he said, "to thank you for welcome that does not match my poor deserts, madam."

Then Dane, standing beside his leader, saw the grimness grow a trifle less marked in his eyes. "It is in the blood," he said half-aloud, but Dane heard and afterwards remembered it.

In the meanwhile Miss Barrington had turned from the stranger to her niece. "It is a very long time since you have seen Lance, Maud, and, though I knew his mother well, I am less fortunate, because this is our first meeting," she said. "I wonder if you still remember my niece?"

Now Winston had been gratified by his first success, and was about to venture an answer that it was impossible to forget; but when he turned towards the very stately young woman in the long black dress whose eyes had a gleaming gleam, and wondered whether he had ever seen anybody so comely or so inclined to be companionable, it was borne in upon him that any speech of the kind would be distinctly out of place. Accordingly, and because there was no hand held out in this case, he contented himself with a little bend of his head. Then he was presented to the Colonel, who was distantly cordial, and Winston was thankful when the maid appeared in the doorway again, to announce that dinner was ready. Miss Barrington laid her hand upon his arm.

"You will put up with an old woman's company tonight?" she said.

Winston glanced down deprecatingly at his attire. "I must explain that I had no intention of trespassing on your hospitality," he said. "I purposed going to my own homestead, and only agreed to acquaint Colonel Barrington with my arrival."

Miss Barrington laughed pleasantly. "That," she said, "was neither dutiful nor friendly. I should have fancied you would also have desired to pay your respects to my niece and me."

Winston was not quite sure what he answered, but he drew in a deep breath, for he had made the plunge and felt that the worst was over. His companion evidently noticed the gasp of relief.

"It was something of an ordeal!" he said.

Winston looked down upon her gravely, and Miss Barrington noticed a steadiness in his eyes she had not expected to see. "It was, and I feel guilty because I was horribly afraid," he said. "Now I only wonder if you will always be equally kind to me."

Miss Barrington smiled a little, but the man fancied there was just a perceptible tightening of the hand upon his arm. "I would like to be, for your mother's sake," she said.

Winston understood that while Courthorne's iniquities were not to be brought up against him, the little gentle-voiced lady had but taken him on trial; but, perhaps because it was so long since any woman had spoken kindly words to him, his heart went out towards her, and he felt a curious desire to compel her good opinion. Then he

found himself seated near the head of the long table, with Maud Barrington on his other side, and had an uncomfortable feeling that most of the faces were turned somewhat frequently in his direction. It is also possible that he would have betrayed himself had he been burdened with self-consciousness, but the long, bitter struggle he had fought alone, had purged him of petty weakness and left him the closer grasp of essential things, with the strength of character which is one and the same thing in all men who possess it, whatever may be their upbringing.

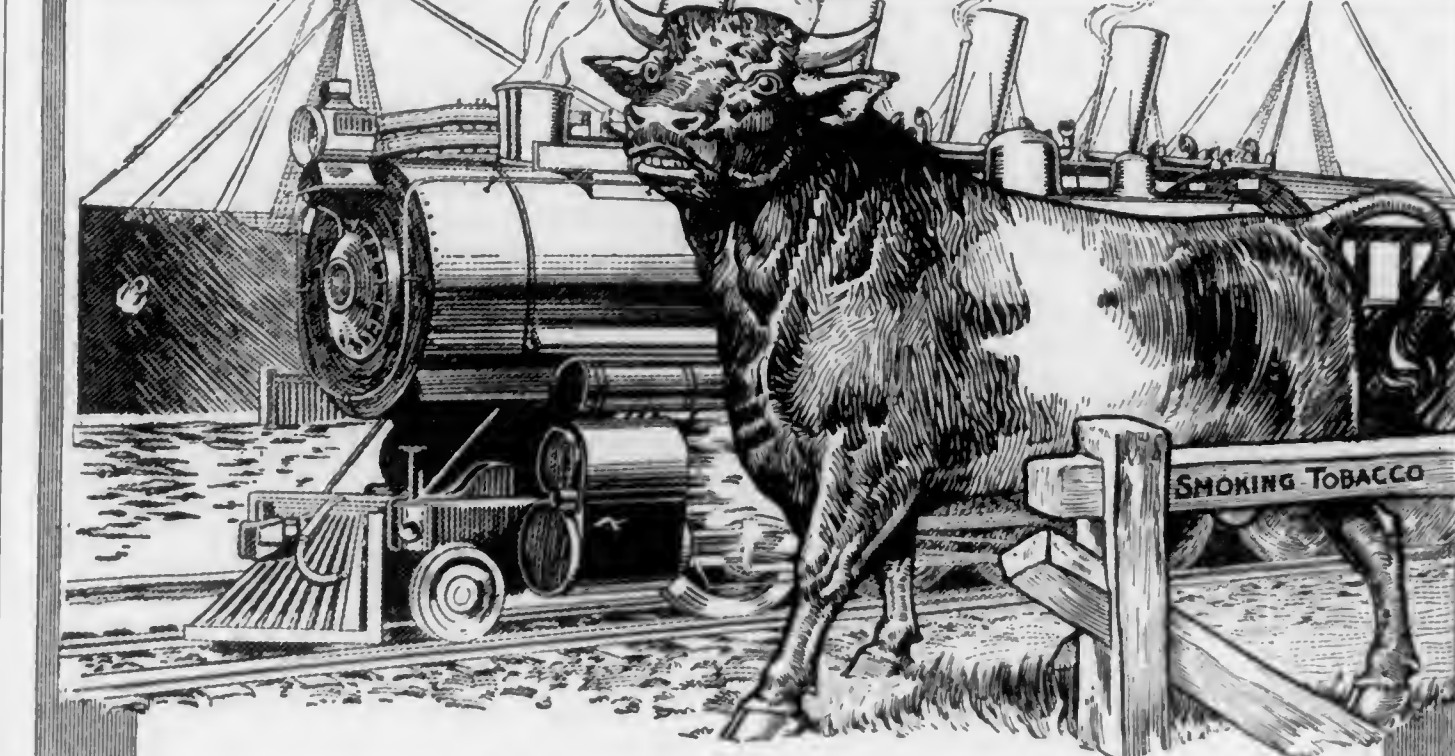
During a lull in the voices, Maud Barrington, who may have felt it incumbent on her to show him some scant civility, turned towards him as she said, "I am afraid our conversation will not appeal to you. Partly because there is

so little else to interest us, we talk wheat throughout the year at Silverdale."

"Well," said Winston with a curious little smile, "wheat as a topic is not quite new to me. In fact, I know almost more about cereals than some folks would care to do."

"In the shape of elevator warrants or Winnipeg market margins, presumably?"

(To be continued.)



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AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY

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2 YEARS FOR \$1.00.

Farm Practice in Corn Growing—By H. S. Adams, Agriculturist, Butler County, Pa.

Note:—The following article is based upon a survey made and samples of corn collected during the seasons of 1912 and 1913 in Butler County, Pa. The figures presented are those for the one county alone, but they are extremely interesting as indicating the essential features in general farm practice in that section of the state. Much is being written as to how farmers are actually growing corn.—The Editors.

The Butler County Farm Bureau, in cooperation with the Office of Farm Management, U. S. Department of Agriculture, conducted a corn survey or study as a part of its field work during the seasons of 1912 and 1913. The primary purpose of this survey was to familiarize the local bureau with the varying methods and successes in the production of corn.

The importance of corn in Pennsylvania agriculture is recognized by most farmers, whether considered from the standpoint of food value, or money value. Corn, as compared with wheat and hay, has approximately three times the energy value, while its farm or money value per acre has been only about twice that of these crops. It would seem probable, therefore, that corn has not yet reached its limit in price as compared with other farm crops.

In making this corn survey the county agriculturist planned, as far as possible, to visit all agricultural sections of Butler County. Special effort was made to call on farmers located upon both the higher and lower elevations, varying from 1,100 to 1,500 feet above sea level, so as to get representative results.

Varieties.—Samples consisting of three ears each were collected. These samples formed a part of agricultural displays at fairs, poultry shows and in the farm bureau offices, and proved of much interest to farmers. Of the varieties in the collection, 44 percent were yellow dent; 30 percent were white cap yellow dent; 6.8 percent were red dent, and 13 percent were mixed varieties. Ears of the white varieties varied in length from 6 1/2 to 10 inches, with an average length of 8 1/2 inches. The yellow varieties varied from 7 to 10 1/2 inches in length, with an average of 8 1/2 inches.

There were 13 varieties of yellow dent, 5 of white dent, and 4 of red dent. No distinct variety names were given in connection with the white cap yellow dent samples. Following are the varieties collected: Yellow Dent—Leaming, Improved Leaming, Drought Proof, Iowa Gold Mine, Pride of the North, Mortgage Lifter, King's Yellow Dent, 90 Day Dent, Shenandoah Special, Pride of Ohio, Klondyke, Early Mastodon, Lancaster County Sure Crop.

White Elephant, Old Virginia (Ensilage), Southern Red, B. & W. Ensilage, Eureka Ensilage, Red Bloddy Butcher, King Philip, Eight Row, Earliest of Earliest.

In making this collection, samples were found so badly mixed that they could not be placed among the white dent, yellow dent, or white cap yellow dent types. There seems to be a rather common practice among some of the farmers to mix different varieties of corn for seed.

Seed Selection.—Of the farmers returning the cards containing questions pertaining to the selection of seed corn, 89 percent selected their seed corn in fall, while the remainder postponed this important function until spring. In making this study we learned that very many of the farmers depend upon purchased seed. In fact, too many who do not save their own seed, depend upon their neighbors for a supply, or send to seed houses. One of the first steps

surprising fact when one considers that the farms vary in size from 75 to 150 acres. On a farm with 90 acres in cultivation, a minimum of 15 acres should be in corn, and if labor permitted, this might be increased to 20. In view of the fact that much of our land is adapted to live stock, we are of the opinion that corn, one of the basic feeds for farm animals, should be more extensively grown.

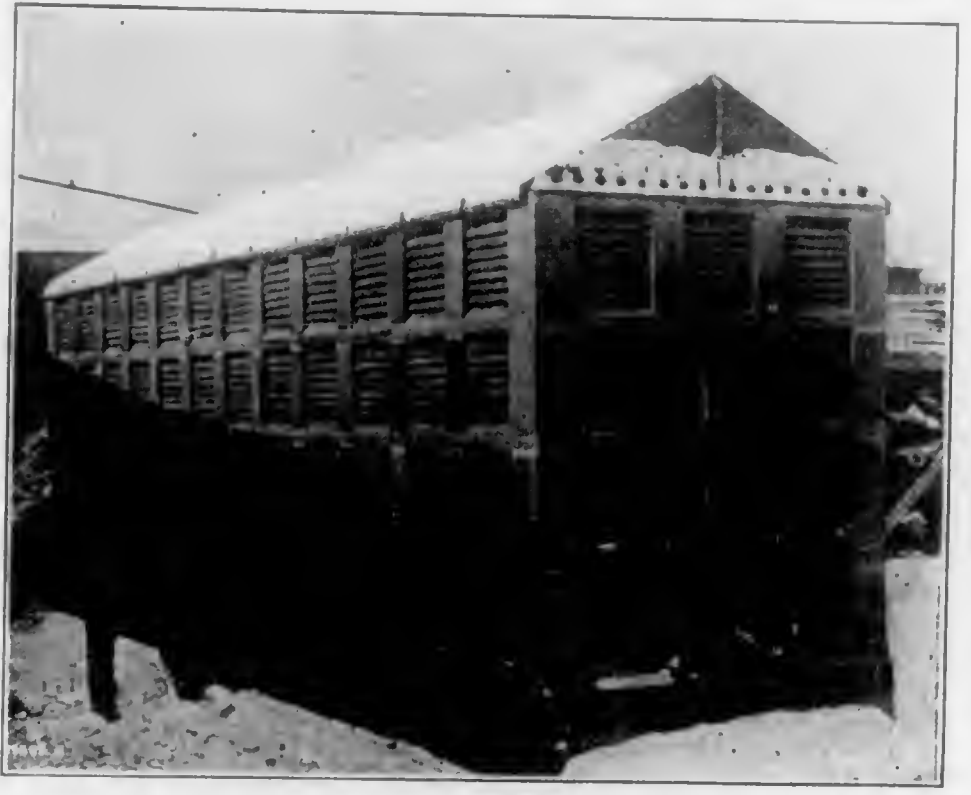
Plowing.—Of the farmers questioned on the time of plowing, more than 90 percent plow their corn land in the spring. Probably the principal reason why fall plowing is not more common in Butler County is that farmers do not wish to have their soil uncovered and exposed to the weather conditions during the winter months. Since the question of available plant food is such an important one, farmers hesitate to expose their fields to such extreme leaching. In some cases farmers are sowing cover crops in their corn at the last cultivation, both as a source of humus and protection from erosion and leaching. This is a commendable practice and should be more generally followed.

The average depth of plowing on the farms surveyed varied as follows: 6 percent plowed 5 inches deep; 38 percent plowed 6 inches deep; 26 percent plowed 7 inches deep; 24 percent plowed 8 inches deep; 6 percent plowed 9 inches and over.

By studying these figures one will see that the



GATHERING SEED CORN FROM STANDING STALKS.



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farmers need to take in this and, no doubt, in many other counties, is to develop home-grown varieties of corn thru careful selection and breeding. There are many good varieties grown by local farmers, which have become acclimated and adapted to local soil and climatic conditions. The season in certain years is

average depth of plowing is from 6 to 8 inches. Of all farmers reporting, 88 percent plowed to this depth, while only 12 percent plowed shallower or deeper. Undoubtedly the best depth will vary with the soil, the climate, the season, and often with the previous crop grown and the fertilizer applications made. It is impracticable to give rules to be followed in general practice.

Harrowing.—The farmer, in preparing his field for corn, should keep in mind the real principles underlying the work, viz., to secure a pulverized and mellow seed bed and to maintain a good dust mulch, and thus prevent the soil from drying out. The facts gathered in this survey in reference to harrowing are as follows: 4.7 percent of farmers visited harrowed 1 time; 17.2 percent harrowed 2 times; 32.8 percent harrowed 3 times; 34.3 percent harrowed 4 times; 7.8 percent harrowed 5 times; 3.2 percent harrowed 6 times or over. It is interesting to notice that nearly 85 percent harrowed the field from 2 to 4 times, while only 11 percent worked the field oftener.

Planting.—The dates of planting varied from May 1st to June 10th, with more than three-fourths of the farmers planting their corn between May 10th and 31st. Those planting earlier than these dates included less than one-fourth of the entire number. Dates of planting were shown as follows: 17.2 percent planted May 1 to 10; 48.5 percent, May 11 to 20; 28.1 percent, May 21 to 31; 6.2 percent, June 1 to 10.

The method of planting in most common use in this county as shown by the reports in the survey, is the drilling of corn in rows. Of those visited, more than 85 percent planted their corn in rows. Where drilling in rows is practiced, the distances vary as follows: 6.6 percent planted 10 x 36 inches; 10 percent, 12 x 36 inches; 10 percent, 14 x 36 inches; 15 percent, 10 x 42 inches; 30 percent, 12 x 42 inches; 18.4 percent, 14 x 42 inches; 10 percent, 16 x 42 inches or over.

Few farmers planted the rows less than 36 inches apart. Most of the farmers in this county are located on rolling land, where hill planting by the use of a planter is almost impossible. Upon a number of farms the double-row planter is now in use. The depth of planting varied from one to three inches, depending upon the type and condition of the soil.

Manure and Fertilizers.—Nearly two-thirds of the farmers were found to use manure with corn, in most cases applied before plowing the sod. The amount per acre varied from 5 to 20 tons, with an average application of 10 or 12 tons. It was learned also that many farmers are applying the manure to the meadows a year ahead of the corn. This seems to bring the maximum returns from manure applied and is strongly recommended to other farmers for trial. This method not only gives a larger yield of hay but, what is more important, a heavier sod to be plowed for corn.

Of all the farmers questioned, less than three-fourths used commercial fertilizer with corn. Where fertilizer was used, it was applied in the row at the rate of from 100 to 300 pounds per acre. Reports showed that 30 percent used no fertilizer; 23.4 percent applied less than 150 lbs. per acre; 14 percent applied 150 to 199 lbs. per acre; 21.8 percent applied 200 to 299 lbs. per acre; 10.8 percent applied 300 lbs. or over per acre.

Of those using fertilizer, only half could give the formula or analysis of the material. The results following the application of commercial fertilizers to corn are not very marked when compared with those used with small grains. This is to be expected, especially where very small amounts are applied, and coincides with the results of many of

the state experiment stations west of the Allegheny Mountains. Practically all of them agree that the corn plant does not respond as rapidly to the use of commercial fertilizers as do the small cereals, which are sown broadcast instead of in rows, and thus have so many more plants to the acre which row during a cooler portion of the year. Where no stable manure or a very small amount of it is available, it is profitable in this section to apply a small amount of fertilizer. Some very marked results in its favor were seen this summer in many fields.

A very small number of farmers reported the use of lime with the corn crop. In most cases in this county where lime is used at all it is used with the small grains, as a means of sweetening the soil for clover.

Cultivation.—The number of cultivations for corn varied from 2 to 5, few farmers cultivating more than 5 times. While the percentage of those who cultivated 4 times or over is fairly large, it is not as large as desirable. The inadequate supply of labor upon Butler County farms unquestionably is responsible for the lack of more frequent cultivation of corn. The number of cultivations vary as follows: 12.5 percent cultivate 2 times; 29.7 percent cultivate 3 times; 45.3 percent cultivate 4 times; 12.5 percent cultivate 5 times. No ac-



A VIEW OF THE CORN BOOTH AT THE BUTLER COUNTY FAIR.

curate data relative to the depth of cultivation was obtained in this survey.

Date of Maturity.—With the view of determining the length of the season for this cereal, questions were asked relative to the dates of planting and maturity. The variation in dates of planting has been given. The following figures show the variation in the dates of maturity: 12.5 percent reported September 1 to 10; 42.2 percent reported September 11 to 20; 29.6 percent reported September 21 to October 2; 15.7 percent gave no date. It is the opinion of the farm bureau that the date of maturity on some farms was later than October 2nd. A number of farmers in answering this question merely quoted the month of October, giving no definite date.

By referring to the average date of planting one learns that the length of the season as reported on a majority of the farms varies from 100 to 120 days, and on the remainder from 90 to 110 days. A few farmers reported a season of only 90 days, or three months. The study of the length of season brought out some important facts relative to the specific varieties adapted to this section and climate. There is room for a great deal of investigational work in connection with developing varieties that will mature in this county during the average season.

Yields.—Most important in a discussion of corn growing is the yield per

acre, the final test of success or failure. It was almost impossible to secure accurate data relative to the yields of corn in this county on account of the different standards used. Many farmers estimated or stated their yields in measured bushels of ear corn as taken from the field, and others after it is thoroughly crib dried, while still other farmers gave the yield in bushels of shelled corn weighing 56 pounds, this being the correct method for measuring and quoting the yield of this crop.

The average yield of shelled corn, so far as could be ascertained from all farmers reporting, is 38 bushels per acre. This is six bushels greater than the yield as reported for Butler County in the 1910 census, at 32.4 bushels per acre. The yield for the State of Pennsylvania is 30 bushels, while that reported for the entire United States is 27.4 bushels. The total acreage in corn in Butler County in 1910 was 24,716 acres, with a total yield estimated at 801,593 bushels. With greater care exercised in the selection of seed, and with closer study given to the preparation and cultivation of the corn field, it is possible to raise the average yield of corn per acre in this county to 40 bushels by the time another census is taken.

Conclusions.—While this report does not contain data from a large number of farmers in reference to the growing when the first freeze occurred, came up again and produced a fair crop, but much short of what they would have made. The leaves on the new tops were much smaller than those frozen. Corn came on but the crop was short.

A crop which gets a check in growth from any cause, such as a frost, lack of moisture, injury or insufficient plant food, will not grow and yield like one which grows without interruption from germination of seed until harvested. Adverse conditions have baffled a great many farmers this year and caused poor yields. It is the chief cause of the short production.

In spite of the shortage, there is enough and to spare. "Hope springs eternal in the human breast," and the farmer, the real farmer, "girds up his loins" and prepares for another year, hoping for better success, and confident in the promise that "Seedtime and harvest shall not fail."

Potatoes.

The yield of the late potato crop in general is not large. This seemed to be an "off year." About the usual acreage was planted, but the plants did not "set" many tubers. I would be very thankful for an explanation of the cause of this. Different reasons are given in different neighborhoods, but my travels have taken me into communities where different climatic and weather conditions prevailed, wet, dry, hot, cool and normal, and the same complaint is heard—few potatoes to the stalk. Weeds were allowed to grow unchecked the latter part of the season on a part of the potato field at Homestead Farm, (cause, lack of help) and the yield was 50 percent less in this part of the field. I have seen acres and acres require a mowing machine, horse-rake and hay wagon to prepare them for digging! One cause of the potato shortage.

Rye and Vetch.

Rye and winter vetch were sown in the early potato field after the potatoes were out, and a beautiful green covering is the result. We have tried vetch on different occasions, but never had much success. This time, we treated the seed with commercial culture to introduce the necessary bacteria and hope for better results. Much of the failure to grow this valuable plant is no doubt due to a lack of favorable bacteria in the soil. This is also the case concerning crimson clover, cow-peas, soy beans and other legumes which have not hitherto been grown on a farm. This field will be plowed when the rye and vetch is about 12 or 15 inches high next spring, and strawberry plants set.

A Natural Road.

One of the best and cheapest "permanent roads" to be found in the east is in the eastern part of Pike Co., Pennsylvania. The road runs along the base of a mountain from Matamoras to Bushkill, a distance of forty miles. The mountain seems to be composed of a cement-like shale, which, when worn down, makes a perfectly smooth, hard road. Automobilists from the three states have found it to be a splendid road and make use of it accordingly. Not only is the road fine, but the scenery along the historic Delaware is grand. No wonder the Indians prized the country of the Delaware so highly. Not only have they a good road and fine scenery up there, but the river valley for the entire distance has fine, fertile farms. The one thing especially needed is lime. Some of the farmers are getting interested in this subject, and where lime has been added its value is seen.

Agricultural Fairs.

The fairs seemed to be much more worthy of the name Agricultural Fair this year than was the case a few years ago. The exhibits from the farm and home were, in general, very creditable

of corn, and is not sufficiently extensive to serve as a basis in drawing general conclusions, nevertheless, it has proved of great value in determining a few of the most important factors influencing the yield of corn in this county. Of the various points noted, the writer considers those relating to seed selection and germination, varieties, seasonal conditions, fertilizer practices, and cultivation, of most value in making a more careful study of the production of corn in Pennsylvania.

Our Farm Counselor

By R. P. Kester, Penna. Farm Advisor on Soils and Crops.

Farm Notes.

The year 1913 will long be remembered for weather conditions which were adverse to best crop growth. Freezes, floods and droughts followed each other in many sections with discouraging regularity. Altho the usual careful planning and conscientious work was done on Homestead Farm, much of it was done in vain. There were just 92 days between killing freezes! The corn was frozen at both ends of the season. Much of the garden truck was killed by a heavy freeze on June 9th, replanted, and that killed on September 9th before maturing a full crop. The early potatoes, which were in blossom

when the first freeze occurred, came up again and produced a fair crop, but much short of what they would have made. The leaves on the new tops were much smaller than those frozen. Corn came on but the crop was short.

and educative. While the number of side-shows was great, and the "barkers" as loud-mouthed and truthful (?) as ever, it was noticeable that the visitors paid less attention to them and more to the agricultural exhibits. City people took a great interest in agricultural products and farm animals. Farmers compared the different kinds and breeds interestedly, and critically examined the farm machinery. The schemes in which you are invited to "try your luck" were much in evidence at most places. Things which would not be tolerated any place else often go at a fair. Men and women alike buy paddles on a chance to get a teddy-bear or a big doll. The "lure of luck," the uncertainty of which shell the pea is under, or upon which number the pointer will stop, seems to have a fascination for the human mind that is hard to resist, especially when one begins to gratify it. The greatest danger for the boy is that he will win, not that he will lose.

The fairs are improving, thanks to the criticism of the past. Let us keep at it, helping as well as criticizing.—R. P. K.

NEW JERSEY HELPING FARMERS.

The farmers of New Jersey have shown eagerness to take advantage of the new State Department of Farm Demonstration. Professor Alva Agee,



TWIN POTATOES GROWN IN SAME HILL ON FARM OF HOWARD BROUGHT, MIFFLIN CO., PA. Each Potato Weighed 2 Pounds, and Measured 16 Inches in Circumference the Large Way and 13 Inches the Small Way.

the acting superintendent, has found it necessary to double his staff. Professor W. C. Pelton, formerly of the Delaware State Experiment Station, has been engaged as his assistant and will specialize in vegetable growing. On November 1st, Professor A. L. Clark was transferred to this department and will devote his time to poultry, demonstrating to farmers how to build up-to-date poultry houses and how to make poultry raising on the farm more successful. The field and crop work will be done by Arthur J. Farley and John H. Voorhees, who have been engaged in doing such for several months.

An expert will be sent to any farm in the State by this department, whenever the owner requests it. There will be no charge for this service except that the farmer is requested to pay the transportation of the expert sent him. If the farmer feels that he cannot even afford this, the transportation fees will be paid by the department. The object is to show the farmers how to obtain the best results from their farms, special advice being given instead of general instruction, as at an agricultural college.

Speaking of the State wide movement for the appointment of county farm demonstrators, Professor Agee says that

he does not intend to appoint a demonstrator for any county whose farmers do not want demonstration work. If they do want a demonstrator, all they have to do is to meet, appoint a committee to wait upon their Board of Freeholders and notify the board of their wish. The appointment will then be made. The Legislature has appropriated \$15,000 for this work.

The development of farm demonstration is but incidental to the increased usefulness of the State Agricultural College. More attention is now being given to poultry at that institution, 13 acres instead of 5 now being devoted to this department. It has become a matter of fact that farm poultry is the most profitable side-line on the ordinary New Jersey farm, and there is always a demand at good prices for both chickens and eggs. The swine department has also been enlarged by the addition of ten acres. The farm will conduct breeding experiments in the hope of producing a revival of the swine industry in New Jersey. Dr. Jacob G. Lipman, director of the Experiment Station believes that the State can demonstrate to farmers that there is big money in swine when the secret of cheap feeding is understood.

There has also been an increase in the acreage of alfalfa, there being now about 40 acres. It has proven a profitable crop and the college farm has been largely instrumental in introducing it to farmers thruout the State. In 1909

crow consumes enough grasshoppers, cut worms, white grubs and other injurious insects to make him highly valuable to farmers. His one bad habit is the destruction of young birds and bird eggs, but this trait is outweighed by the good the bird is doing for the farmer in the destruction of worms and insects.

The one danger from the crow lies in large numbers. If the number can be kept down so that its normal food is sufficient, there is every reason why farmers should encourage the bird to remain about their farms. Not long ago an agent of the Department was watching a crow feeding in a corn field. It seemed that the bird was pulling up young corn and carrying it to a near-by nest to feed its young. After the crow had left the nest the agent climbed the tree and secured the young birds. An examination showed that instead of young corn or the kernel of the corn, the older bird had been feeding the young ones with cut worms gathered from around the corn plants.

ALFALFA IN WESTERN PENNSYLVANIA.

Why Grow Alfalfa?

- (1). It is a profitable crop; it yields heavily, three tons per acre being a safe estimate.
- (2). It has a high feeding value, one ton being generally equivalent to a ton of bran. The latter is now quoted at about \$22 a ton. Alfalfa, with corn, makes almost a balanced ration. Good milk yields are made on a ration of alfalfa and corn silage. It is very palatable; practically all animals eating it freely.
- (3). It is drought resistant; its deep tap roots help it to live over a dry period.
- (4). It is a soil enricher, being one of the legumes that gathers nitrogen from the air thru the action of the bacteria in the nodules on the roots.

The Essentials for Growing Alfalfa.
(1). A well-drained soil. Any farmer will know whether his land is well drained or not. Do not sow alfalfa where clover will kill out in the winter.

(2). A sweet soil. Use two tons or more of ground limestone, or one ton or more of burned lime. Ground limestone can be purchased in carload lots for about \$3.25 per ton, delivered, in sacks. Do not pay more than \$4.50 per ton for hydrated lime. The soil must be sweet.

(3). A soil rich in humus; ground that will grow good corn and wheat is fertile enough.

(4). A well-firmed soil, which has been cultivated a number of times to kill most of the weeds on the surface. Do not use a top dressing of manure before sowing, as it favors the growing of weeds. Use instead 300 or 400 pounds of acid phosphate or basic slag per acre, and when the alfalfa is 2 or 3 inches high, apply 50 to 100 pounds of nitrate of soda per acre at a time when the plants are dry.

(5). Use 20 to 25 pounds of good clean seed, upon which you have made a germination test. Make this seeding not later than August 15.

(6). Do not fail to inoculate. The best plan is to apply 300 to 500 pounds per acre of the soil from an alfalfa field; applying by means of a line spreader or fertilizer attachment, and harrowing in at once, as the bright sunlight is harmful to bacteria. Liquid cultures quite often prove efficient.

(7). Do not clip in the fall, but allow to go thru the winter with ten inches or more of growth. Cut next year when the shoots start from the root, which occurs as the plants come into blossom. After the first cutting, harrow thoroughly with a spring tooth harrow, to destroy any weeds that may be starting.—J. M. McKee, Washington County Agricultural Agent, in County Circular.

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The Dairy

PRIZE ARTICLES.

Home-Grown Dairy Feeds.

The best dairy herd will show little profit unless economically fed. Large milk and cream checks leave little permanent satisfaction or profit if they must go to pay bills for purchased milk feeds. Many dairymen are overlooking opportunities for increasing profits by giving too little attention to home-grown feeds. To stimulate discussion and draw out valuable suggestions on methods of reducing feed bills we will give prizes for best and most helpful articles on "Home-Grown Dairy Feeds." For best article we will pay \$15; second, \$10, and third, \$5. We reserve the right to retain all articles for publication at regular space rates. Articles should not exceed 1,200 words each. Prizes will be awarded more on the basis of value of ideas and definite statements of personal experience than on literary style, etc. All articles should be in our hands by December 15.

THE NATIONAL DAIRY SHOW.

That breeders of dairy stock in this country are holding on to their heifers was one of the most interesting early developments of the National Dairy Show held in Chicago. Extended inquiry shows that no female, with even only a cursory examination during first days after it has been dropped, is sold at any price. Breeders at least keep a heifer long enough to breed her once and thus make a test of her fat-producing qualities.

Another feature that came with the opening of the show was that the men who are keeping considerable herds of pure-bred stock are working along more economic lines in disposing of the milk that comes from such high-class animals. They are disposing of it at much better advantage but in a great variety of ways. Most of them seem to be using the separator, some are shipping the cream, but there are big operations in converting the cream into butter and disposing of it in that shape. One of the breeders showing a Jersey herd churns 1,000 lbs. of butter a day, and has contracted his entire product at 40 cents a pound.

An Oregon man who is showing 15 head of Jerseys, and who keeps 100 head on a 1,400-acre farm, separates the cream and sells it to the creamery trade, feeding the skim-milk on the farm. A New York man who has a herd of Ayrshires in which there is one animal with a test record of 23,700 lbs. of milk in one year, bottles the entire product of 100 head, and sells it in one market. Another breeder, who milks 400 Jersey cows in one barn, sells his milk to railroads and to big buyers in New York. He also makes butter, and he milks in a separate barn a foundation herd of 100 animals.

Some big farming and dairying operations were represented. A Jersey man with 20 head at the show has 2,500 head on his home farm in Texas. He has 20,000 head of beef cattle, and the total acreage of his land holdings aggregates 350,000 acres. Another Jersey man had 1,280 head of the same breed on the home farm, besides 2,000 head of grades.

One of the most interesting talks with the men with herds was that with a man in charge of a herd of Jersey cattle from the Willamette valley in Oregon. This fertile stretch of land is fairly dotted with creameries. This man has a 1,400-acre farm on which he has 100 pure-bred animals. He disposes of his cream to the creameries and he

sells the increase of his herd in territory radiating 1,000 miles from the home farm.

The Cattle.

At the show were 51 herds of the six breeds, numbering in all, 151 animals. The stock came from 13 states and Canada, the territory ranging from Oregon to Massachusetts and from the British possessions to the big Lone Star domain in the Southwest.

The best way to describe these cattle is to say that they form a show of the winners. Most of them came off a circuit that took them to the best dairy and state shows in this country. The champions, grand champions and royal champions were there, for the National is the roundup of the whole continent. The losers at other fairs stayed at home; they stood no chance at Chicago, where a ribbon is worth more than any other given out in this country. So that everything that goes to show the highest mark of perfection in advanced methods of breeding and handling was to be seen.

At no other show, perhaps, has there been such an aggregation of young stock of all the breeds. This is another bit of evidence that the breeders are

and of sixteen head of horses in his orchards. He gets between 300 and 400 tons a year, so that he combines the operation of a fruit farm with dairying, and he seems to be banking on the belted animals to bring him the best results.

The Black and Whites.

Of course the Holstein breeders were in considerable evidence. They stood second in point of number of animals of any one breed at the show. An exhibitor in charge of 20 head of the big ones, and who has made all the big fairs of the circuit, told me an interesting story about the attention paid this breed in the South. He showed at Louisville, Memphis and Nashville. He said that the people of Tennessee seem to look on the black and white breed with a sort of awe. If they had ever heard of or seen the Holstein no one knew it from their actions. The size of the average animal, the big udder and teats caused the people to open eyes and mouth in wonderment. There was a cow in the herd of tremendous dimensions. One of the herdsmen gave out that she gave eleven gallons of milk in a day. The visitors, 50 or more in a bunch, would stand around

Ayrshires keeps 100 head on 187 acres of land. He sells whole milk and markets the whole of it in Rochester. He says that 50 percent of his sales go to the West and Middle West. Of course it is the contingent who like to see a big animal with a capacious udder who linger long around these animals.

The Brown Swiss.

Almost the whole floor space of one wing of the building was taken up with the Brown Swiss. Wisconsin, Illinois and Ohio furnished the stock. There was a great deal of talk at the show on the dual-purpose subject. Some of the breeders want an animal for dairying that may be made to carry a goodly weight in meat and be slaughtered as soon as possible.

Some talk was heard about making a bull do some other work than that of siring a herd on the farm. Most of the talk was around three big Guernsey bulls owned in Wisconsin. These big fellows had been trained to harness single to a cart in which is loaded a great variety of farm stuff and conveyed here and there without any trouble whatever. In instances, these bulls have been driven to town hooked to a sulky, passing all the objects at which an equine is wont to shy. Many farmers account this performance a good object lesson.

Dairy Machinery.

The machine display had all of the concrete floor space in the entire layout. The cattle were taken off the hard floors and put where it was more comfortable. They were better stalled this year than ever.

The display of the evidence of inventive genius in contriving new and approved methods in handling the products of the dairies was a magnificent lesson in itself. Machinery was enclosed in glass cases where steam-driven conveyors carried in many different processes the milk production of 100 farms. Some of these big glass cases took up a large section of an entire wing, and the operation was in plain view of great throngs of interested onlookers. A great multiplicity of other creations had to do with pasteurization, including the cooling and heating processes, the manufacture of butter and of ice cream, including the flaky cone in which a five-cent drop of cool stuff is contained, and then on down thru a veritable maze of creations until one stood over a little galvanized iron stool on which the ruddy-faced maid seated herself in a working engagement with Bossy.

There never has been a more extensive and educational display of the separator, that by this time has a powerful sway on the dairy farm. We have shown in other lines the big and growing use of this contrivance, so it is no wonder that it was shown in all of its parts for the instruction of the rapidly increasing numbers making intelligent use of it.

Demonstrations.

There were more demonstration herds at this show than at any of the others. The animals were staged high where the milking process, by hand or by machine, was easy to see by large numbers. There were more different kinds of animals of the different grades.

Another big improvement was the size and arrangement of the lecture room. At other shows it has been little or no trouble to get good audiences to listen to good talks. There were times when standing room was at a premium. The show this year had a good force of talkers and an abundance of room in which to seat interested listeners comfortably.

Students' Judging.

Students from 16 competing agricultural colleges judged cattle on October 24 and dairy products October 25. W. A. Rhea, of Missouri University, was



GRADE HOLSTEIN CALF, SWEEPSTAKES WINNER AT MCKEAN COUNTY FAIR, 1913. Owned by G. F. Boyer, McKean Co., Pa.

keeping their heifers on the home farm. They are selling the bull calves in a wide field. One of the exhibitors had \$39,000 worth of bulls and there were only three of them. He sells the males from these sires as fast as they are produced, and fabulous prices are offered for the females.

Dutch Belted.

There were only two herds of the Dutch Belted, but what they lacked in quantity was made up fully in quality. It develops that there is largely increased inquiry concerning this breed, the history of which is said to go back to the Hollanders of several centuries ago, when belted cattle, belted goats and even belted poultry was in style. Both of the belted herds came from Michigan. E. J. Kirby, of Van Buren County, who was here last year, told the story of the increased interest in these quaint-looking creatures. He said that during the last year he had had eight inquiries from as many state agricultural colleges and one from England. He had 11 head at the show and his farm herd consists of 31 head. From his show herd he has won money in 17 prizes in twelve classes. Where there was one inquiry last year there are three this year. He separates his milk, sells the cream and feeds the milk.

This man says that one of his reasons for keeping stock is to get the fertilizer produced. He runs a fruit farm on which there are 13,500 peach trees, 3,000 pears, and 2,000 apples. He spreads the manure of his dairy stock

The Ayrshires.

There were three herds of Ayrshires, one of them from Canada, another from New York, and the other from Wisconsin. The latter exhibitor has been doing a great deal of importing and showing a number of prize winners so distinguished from being shown in the region of their nativity. They created an immense amount of attention. The movement seems to be a new departure in the great Badger dairy state. He has 80 head on two farms of 277 acres. Eighteen head were imported this year. His exhibitor's herd consists of 24 animals and makes an extremely interesting display. This man claims greatly increased inquiry from the West, Northwest, Michigan and Illinois.

The New York man who showed

first place in the judging; L. W. Wing, Jr., of the same institution, was awarded second place, and Harry Thomas, of Nebraska, secured third.

And this brings us to the crowds. One of the railroads, the Northwestern, put its addressograph machinery to work in sending out striking posters in a territory covering 10,000 miles. This is a fair sample of the work done by others interested in the success of the show. The crowd was assured; it was made up of men, women and children, all of whom were interested in one of the most important food items of human consumption.—J. L. Graff.

NEW AYRSHIRE QUEEN.

The Ayrshire cow, Auchrain Brown Kate 4th, 27943, owned by Percival Roberts, Jr., of the Penhurst Farm, Montgomery Co., Pa., has just completed a year's record, under official test, of 23,022 pounds of milk and 917.60 pounds butter fat, giving 1,079.11 pounds butter. This beats all previous records made by any Ayrshire cow—the best previous being the record of Lily of Willowmoor, 22269, who produced 22,106 pounds of milk and 1,046 pounds of butter.

The new champion's record is as follows: Record began October 3rd, 1912. Mature class.

1912.	Lbs. Milk.	Percent Fat.	Lbs. Fat.	Lbs. Butter
October (29 days)	1679.3	3.67	61.63	72.51
November	2060.6	3.95	81.39	95.75
December	2322.9	3.73	86.64	101.93
1913.				
January	2054.7	3.9	80.13	94.27
February	1813.9	3.9	70.74	83.22
March	1995.2	3.51	70.03	82.39
April	1911.5	4.25	81.23	95.16
May	1969.9	3.96	78.00	91.76
June	2007.6	4.04	81.11	95.42
July	2022.7	4.13	83.54	98.28
August	2071.3	4.36	90.10	106.60
September	1040.6	4.77	49.64	58.40
October (2 days)	71.8	4.77	3.42	4.02
365 days.	23022.2	3.99	917.60	1079.11

With milk at five cents per quart, the 19,963 quarts produced would give \$548.15. The feed consumed by Auchrain Brown Kate 4th for the year under test was as follows:

704 lbs. bran @ \$23.00 per ton	\$8.50
702 lbs. hominy @ \$26.00 per ton	9.31
1074 lbs. ground oats @ \$32.00 per ton	17.18
548 lbs. gluten @ \$28.00 per ton	7.57
\$12 lbs. cottonseed meal @ \$32.00 per ton	12.99
134 lbs. peanut meal @ \$30.00 per ton	2.01
905 lbs. oil meal @ \$30.00 per ton	13.62
8000 lbs. ensilage @ \$3.00 per ton	12.00
21000 lbs. beets @ \$6.00 per ton	63.00
2880 lbs. alfalfa hay @ \$26.00 per ton	37.14

Total cost of feed per year . . . \$184.62
Profit in milk over cost of feed \$363.62

The new champion was born in March, 1904, and was eight years and seven months old at the beginning of the test. She was selected in Scotland by her present owner, and imported in 1910. She was milked three times per day thruout the test, and her highest grain ration was 15 pounds in one day. The record was authenticated by the Pennsylvania State College. The milk was sold at wholesale at five cents per quart, and feed was charged at the local market prices. The cow is mostly yellow in color, and is of large size, her weight being 1,350 pounds in ordinary milking condition.

Auchrain Brown Kate 4th is out of Yellow Kate of Auchrain

"13925," now 15 years old, who produced last year, 989 gallons of milk. Her sire, St. Simon of Auchrain, "4000," is also the sire of Barcheskie Gevynette 24670, who is in the advanced registry with a record of 15,218 pounds of milk, and 781 pounds of butter, average test 4.36 percent. Another daughter, Auchrain Brown Polly, imported last year, has milked over 70 pounds a day. This new record is striking evidence of the value of the Ayrshire breed as economical producers of high-quality market milk.

THE COST OF MILK PRODUCTION.

Bulletin No. 145 of the Massachusetts Experiment Station (Amherst), under the above caption, is a study of the subject as worked out with the station herd from 1896 thru 1911. This bulletin contains a record of the amount and cost of the food consumed and of the milk produced by each cow in the station herd in that period.

The estimated cost of housing and caring for the cow and her product is also stated, which, added to the food cost, shows a total average yearly cost of \$146.04 per cow. The average yearly production was 6,036 pounds, and the estimated cost of a quart of milk averaging 5 percent of fat is shown to be

1912.	Lbs. Milk.	Percent Fat.	Lbs. Fat.	Lbs. Butter
October (29 days)	1679.3	3.67	61.63	72.51
November	2060.6	3.95	81.39	95.75
December	2322.9	3.73	86.64	101.93
1913.				
January	2054.7	3.9	80.13	94.27
February	1813.9	3.9	70.74	83.22
March	1995.2	3.51	70.03	82.39
April	1911.5	4.25	81.23	95.16
May	1969.9	3.96	78.00	91.76
June	2007.6	4.04	81.11	95.42
July	2022.7	4.13	83.54	98.28
August	2071.3	4.36	90.10	106.60
September	1040.6	4.77	49.64	58.40
October (2 days)	71.8	4.77	3.42	4.02
365 days.	23022.2	3.99	917.60	1079.11

5.45 cents. Data from other sources are also cited. The amount of dry and digestible matter required to produce milk and milk ingredients is stated and indicates that the largest producers required the smallest amount of food to make a definite amount of product. Large cows produced milk rather more economically than the smaller ones.

Tuberculosis of Cattle.—Two bulletins, one, Extension Bulletin No. 32 of the Minnesota Station at St. Paul, and the other, Bulletin 123 of the Pennsylvania Station at State College, have just been issued on the above topic. Both bulletins are comprehensive and are interesting from an individual and comparative standpoint.

NEW JERSEY FARMER'S WEEK.

Farmers' Week at the New Jersey College of Agriculture and Experiment Station will be held December 26 to December 31, inclusive. Full details will be published later, or may be obtained by addressing Prof. Alva Agee, New Brunswick, N. J.

Homestead Lands.—The U. S. Government is offering to homesteaders about 45,000 acres of irrigated land on the Shoshone or Wind River Reservation. Parts of this tract are for sale on easy terms, and parts will be leased for 10-year periods. Full information and description of lands may be obtained from the Shoshone Indian School, Wind River, Wyo.

Feed Adulteration Punished.—A feed company of Toledo, O., was recently fined \$150 thru a ruling of the U. S. Department of Agriculture, for the shipment of feed meal in violation of the Food and Drugs Act. Adulteration was alleged because cottonseed meal had been mixed with the product so as to reduce, lower and injuriously affect its quality and strength.

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Constitutional Vigor An Important Factor in Poultry Breeding.

By Prof. M. C. KILPATRICK, State College, Pa.

The character "constitutional vigor" is of supreme importance in poultry breeding and should be given first consideration in selecting fowls for breeding, for egg production, for fattening or for exhibition. Failure to maintain constitutional vigor in the flock is responsible for a large percentage of the many failures in poultry husbandry.

It is necessary to pay particular attention to the constitutional vigor of the fowls to be used for breeding because this factor influences the fertility and hatchability of the eggs, and, as it is an inherited character, influences the development of the chicks. Lack of constitutional vigor in the breeding flock is one of the reasons for the great mortality among chicks.

Success in poultry husbandry is dependent upon the ability to hatch and rear chicks successfully. If the poultryman is to hatch a large number of strong healthy chicks he must have good eggs, strong in fertility and hatchability. Such eggs can be secured only from breeding stock having strong constitutional vigor. Anything that tends to lower the vitality of the breeding stock tends also to lower the hatching power of the eggs. Cornell Bulletin No. 318 gives a comparison of the hatching quality of eggs from stock selected for constitutional vigor with that of eggs from stock showing a lack of this character. The percentage of chicks hatched from the total eggs set is in favor of the strong flock by 4.5 percent. If day old chicks are worth 10 cents each, 1,000 eggs from the flock of high vitality are worth \$4.50 more than the same number of eggs from the weak flock.

As constitutional vigor is an inherited character and a chick hatched under normal conditions possesses the constitution transmitted to it by its parents, it is imperative that only fowls possessing strong vitality be allowed in the breeding pen. Unless a chick is constitutionally strong when hatched, it is not likely to be a profitable proposition, as environmental conditions are more likely to mar than to mend constitution.

The profitable production of poultry meat of prime quality demands that the chicks be strong and vigorous when hatched, in order that they may make economical use of the feed furnished them, developing rapidly and uniformly into broilers or roasters, and that they may be able to keep in good health and make satisfactory gains under the close confinement and forced feeding incident to fattening for market. The value of a chick as a broiler or roaster depends upon the length of time and the amount of feed required to bring it to the desired size and condition. In general, the more vigorous chick requires a shorter time and less feed to bring it to marketable condition. It is, therefore, more profitable.

It is especially necessary that hens kept for egg production be constitutionally strong because of the great physical and nervous strain made upon them by egg production. In modern poultry breeding we are asking of our fowls what appeared to be impossible only a few years ago. We are endeavoring constantly to increase the average annual egg production toward the 200 egg mark and at the same time breed a race of fowls of strong constitution that will be commercially profitable for a number of years. Considerable progress has been made toward the 200 egg mark in annual production, but our

fowls are not generally profitable commercially for more than two seasons. This is the weak link in our poultry breeding. In order to increase the longevity and profitable production of our fowls, it is necessary to breed for increased constitutional vigor.

To illustrate the heavy tax put upon the digestive and reproductive systems of a fowl, we quote from Dr. W. H. Jordan of the Geneva Experiment Station who has compared a Leghorn hen weighing three and one-half pounds that lays 200 eggs weighing twenty-five pounds with a Jersey cow weighing 1000 pounds that gives in a year 7,000 pounds of milk containing 14 percent of solids. He states:

"If you take the dry matter of the hen and compare it with the dry matter in the eggs she lays in a year, there will be five and one-half times as much dry matter in the eggs as in her whole body. The weight of the dry matter in the body of the cow to the weight of the dry matter in the milk will be as one to two and nine tenths. In other words, based upon the dry matter, the hen does twice as well as the cow."

Only hens that are constitutionally strong are able to digest and assimilate the great amount of food required in order to produce a large number of eggs and at the same time to produce chicks that are constitutionally strong. Cornell Bulletin 318, previously referred to, shows that fowls selected for constitutional vigor pay a larger profit annually than fowls of the same breeding that are low in vitality.

Since constitutional vigor is of such great importance the poultryman should have some way by which he may separate the strong fowls from the weak. Careful study has shown that the external appearance and the disposition of a fowl may be taken as indicating its vigor and vitality. The poultryman should be familiar with these indications in order that he may improve the constitutional vigor of his flock through selection.

The head of the fowl of high vitality is compact, well rounded and symmetrical. The beak is short, stout and regularly curved. The eyes are full and bright, fully filling their sockets, giving the fowl an alert appearance. The face, comb and wattles are highly colored. A long, narrow, "crow" head, long, thin beak, dull sunken eyes, pale face, comb and wattles are indications of low vitality and should be avoided.

The body of a strong fowl is compact, broad and deep, resembling a parallelogram in shape, giving plenty of room for the development of the vital organs. Do not use in the breeding pen any fowl that is long, slender and loose jointed or that has a narrow, reached or deformed back.

The shanks of a fowl of high vitality are stocky and the legs are muscular, giving the fowl an appearance of solidity. The toes are of medium length and the toe-nails are short.

The tail of the strong fowl is always carried in a natural position, showing no tendency to droop or to be carried to one side.

The plumage of the constitutionally strong fowl is always bright, clean and well kept. The secretions of the skin and of the oil glands are abundant, enabling the fowl to keep its plumage in good condition. If the vitality of the fowl is low, the plumage will appear dull and soiled.

The disposition and action of a fowl

is a good indication of its vitality. The strong male is active, courageous, crowing lustily on the slightest provocation, and is courteous to the hens. He is not necessarily quarrelsome. The strong female is alert, docile, always contented and singing. The busy fowl that is up early in the morning and retires late in the evening is the fowl that is constitutionally strong. Never use in the breeding pen a cowardly male or a lazy, inactive female.

In selecting chicks for constitutional vigor, the same general qualifications should be looked for and in addition, the relative growth and development of the chicks should be carefully noted. In every flock there will be found some chicks that develop more rapidly than the average of the flock and, from the very start give an impression of health and robustness. Such chicks should be marked and from them the breeding stock should be selected for the following season.

The maintenance of constitutional vigor is possible only where rigid selection is practiced and the proper attention is given to sanitation and hygiene. Set a high standard for vitality in your flock and then weed out every individual that falls below that standard. Make no compromise with low vitality. In the process of selection and elimination begin with the breeding stock. Go over your flock carefully and study each individual fowl. See to it that no fowl having any indication of low vitality is allowed to remain in the breeding pen.

Begin to cull the chicks as soon as they are hatched. As the chicks are taken from the incubator, destroy all that are crippled or deformed or that show any signs of weakness. The chick is worth less the day it is hatched than at any subsequent time. These weak and deformed chicks seldom live to a marketable age and the sooner they are removed the less will be the loss. Such chicks are the first to contract disease and may thus be a menace to the entire flock.

Watch the chicks carefully thruout the growing period. Those that at any

time show signs of weakness should be removed from the flock. If in marketable condition, showing no signs of disease, market them as soon as possible. Continue this watchful care over the flock at all times and whenever a weak fowl appears in the flock, remove it at once. Take no chances with weak or sick fowls. Their value is small compared with the possible damage that may result from leaving them in the flock.

High vitality in the flock is a valuable asset to the poultryman and something of which he has a right to be proud. If you have to make excuses for the appearance of your flock, better clean it up. Get rid of the weak fowls at once. The production of your flock will increase, the eggs will hatch better, the chicks will make more rapid and more uniform growth, and the liability to disease will be materially reduced.

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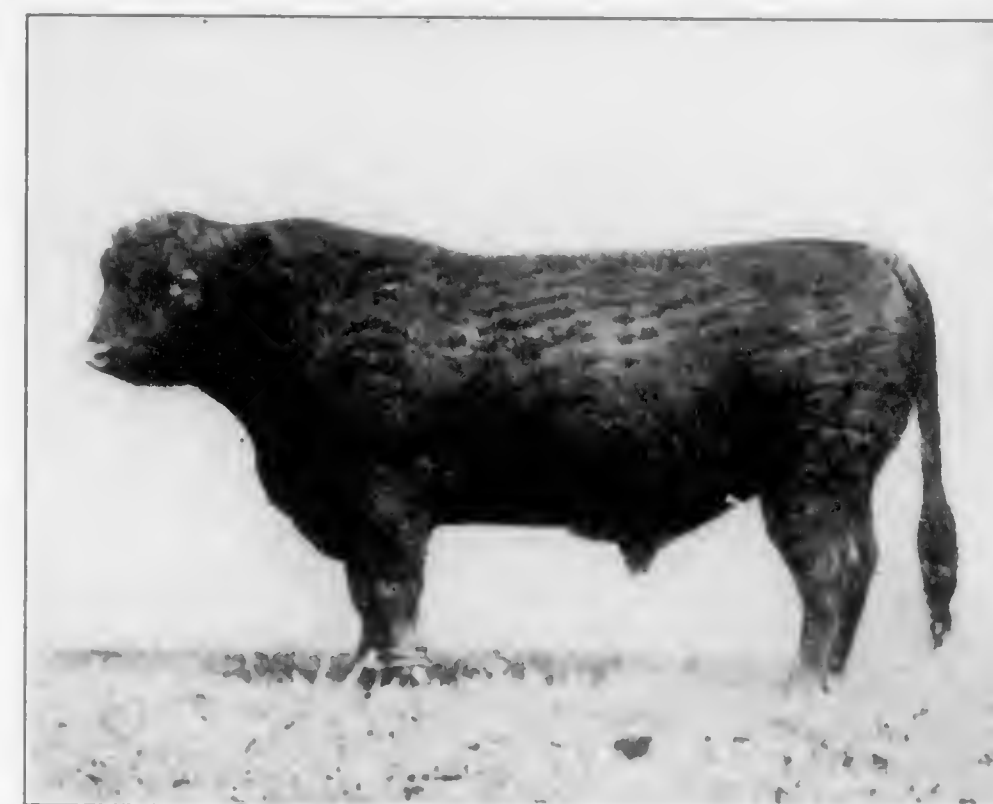
The first step to take when entering upon the production of beef is to select a breed of the beef type. Which one it shall be is probably more a matter of personal preference than anything else. The breeders of each claim special points of superiority, but happily the beef breeds have been so well developed that a man cannot go far wrong in choosing any one of them. But the man who thinks to make it a profitable business with dairy, or scrub cattle, or even to cross them with a beef-breed sire, will meet with disappointment. The sooner the farmer learns the fallacy of trying to improve any kind of stock from chickens to horses by crossing radically different types, the better he will succeed.

The breeds that have produced most of the "top notchers" are Aberdeen Angus, Shorthorns, Galloway and Hereford. Like all other branches of stock

ARE PACKERS PLAYING A SMOOTH GAME?

It would seem to the close observer that most of the agitation about high prices of meat is a part of a carefully planned effort to manufacture public opinion. By keeping up the discussion about high prices, the people will be educated to expect them, and will be resigned to this condition. Under this state of affairs the packers will be in position to ship in beef from the South American countries and sell it at the same price received for domestic beef, at large profit. It is said that Argentina and Uruguay are making active preparations to take immediate advantage of the free beef clause of the new tariff law, and send to the United States large shipments of beef, and it is a significant fact that a big steamship line operating between the United States and the eastern coast of South America has installed large refrigerating spaces for beef.

It is known, too, that some of the large packers of the United States have plants established in South America, or are now establishing them, so they are



CHAMPION GALLOWAY BULL AT LANCASTER COUNTY FAIR, 1913.

Owned by Geo. A. Frost, Schuyler Co., N. Y.

raising, it can be entered upon more economically in a co-operative way. A number of farmers, agreeing upon a breed, buy a sire and some females. The greater number of farmers there are in a community raising one breed of stock, the better for all concerned. When we learn the possibilities of co-operation? How many buyers go into a community to buy horses, cows, beef animals, sheep, apples—anything, unless it is known that a large amount or number of a uniform kind and quality can be purchased?

It is not the purpose of these notes on the production of beef to cause any one to go rashly into the business, because it is a radical change from any other line of stock raising and it also requires considerable time to grow sufficient numbers to provide much of an income, but to the man so situated and located as to make it inviting, and who has the patience and intelligence, the prospects now are that it will be a profitable business. The tariff bill, unjust to agriculture in principle as it may be, is not likely to affect the situation much. The consumer should have cheaper meat and the farmer should receive more for the animal than he has received in the past, but that is matter of business to be solved, not by law but by applying business principles by producer and consumer co-operatively. (There's that word again.)—R. P. Kester.

But the packers have still another reason for this systematic agitation about high prices. Suits have already been instituted against some of them, charging them with a conspiracy to maintain high meat prices. Two such suits are now pending in the Missouri supreme court, and it is doubtless in order to forestall a verdict of guilty in these suits, and to furnish evidence of a natural, normal upward tendency of prices which will prevent the bringing of similar suits in other states. The packers are evidently endeavoring to prove their contention that high prices are due to conditions over which they have no control.

There is no doubt much truth in the claim that prices must remain high for a while. The records of the tax assessors of Missouri show that there are 600,000 less cattle in the state now than in 1890, and 550,000 fewer hogs than in 1890. Doubtless every other corn-grow-

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Large Berkshire Swine, Registered High grade. Prices reasonable. Write HOME FARM, Center Valley, Pa.

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We are selling our entire herd of Registered Southdowns, including imported ram, Baker, "35", who is sire to the young rams and ewes. All our stock is registered and guaranteed. This is a fine chance to get some good stock at a very reasonable rate. Young bucks \$25.00 each. Young ewes \$15.00. Mature ewes \$25.00. Write for particulars and special price on bunch.

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HATBORO, PA.

IT PAYS TO BUY PURE-BRED SHEEP OF PARSONS, "the sheep man of the east." I sell and ship everywhere and pay express charges. I will mark one man in each town. Write for club offer and descriptive price list. SHROPSHIRE, Rambouillet, Polled-Delaines and **PARSONS** OXFORDS. Rt. 3, Shropshire, Grand Lodge, Michigan

PINEBURST SHROPSHIRE—RAMS and EWES. Send for FREE CATALOGUE to Henry L. Ward, well, Box 31, Springfield Centre, Oneida Co., N. Y.

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BIRMINGHAM STOCK FARM Percherons, Coach, and Hackney Stallions for Sale. Prize winners at the Leading Horse Shows. Prices right to quick buyers and long time given on payments. Agents wanted. For further particulars apply Birmingham Stock Farm, Manassas, Virginia.



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Philadelphia, Pa., November 8, 1913.

RECEIVING DUPLICATE PAPERS.

The rush of subscriptions in the last few weeks has resulted in some mistakes in placing names in our list. If you are receiving two copies of Pennsylvania Farmer, please address us, giving both names if there is a difference in initials, so that extra paper may be stopped and proper extension made on old subscriptions.

At a recent gathering of the members of a small city Campaign club, we asked each one to present what fruits his family was eating at present. The members represented the middle class or fairly well-to-do families. There were about twenty present, and the general conversation had turned to the costs of living, making our question opportune. The replies gave grapes, bananas, oranges and apples in about the order named. It surprised all present, when attention was called to it, that even at this season of the year, apples were second to bananas and oranges in the regular diet. The reasons given for this should be of interest to all apple growers. All agreed that they were getting out of the habit of eating apples. Some got out of the habit because apple varieties are unreliable, while bananas and oranges show little variation in quality. When asked why they did not insist upon staple varieties, they said that not one dealer in ten sold apples in small quantities under variety names. Others quit buying apples because a barrel gave them more than they could keep until used without loss, and boxed apples of the varieties wanted were not always available. Buying by the barrel also gave more than was wanted of one variety. Others had quit buying apples because other fruits were cheaper. Three cardinal principles in successful selling appear to be: First, put your product prominently before the public; viz., advertise. Second, put up your product in such manner as to meet the needs of the existing demands. Third, create an increased demand for your product by honest representation of its merits and advantages over competing articles, which again means advertising. There are many points in marketing over which the average farm producer unfortunately has little control, but there

are features in the existing and possible demands of the market which every farmer may well study and take advantage of. Some of these special features in the apple trade may be indicated in the above observations of city consumers who have dropped apples from their diet. The advertising is open to every grower thru the activity of the International Apple Shippers' Association. The stamp scheme for raising money for an extensive apple advertising campaign is proving a large success. It promises to become a tremendous boom to the apple business. Every apple grower should give his assistance thru the purchase of stamps.

Some weeks ago the Philadelphia Board of Health announced that it would soon enforce a ruling requiring all milk marketed in the city to be pasteurized. The board presumably hopes to raise the general standard of wholesomeness of the city milk supply thru such requirement. The practical benefits of pasteurization are still in dispute, with plenty of evidence to show that the process of pasteurizing merely destroys the germs present at the time of pasteurization and impairs the natural resistance of the product to the development of germs which may enter later. It is generally admitted that clean milk does not need pasteurizing and is made less wholesome by the treatment; unclean milk is made no cleaner by the process and but little more wholesome. Notwithstanding this, the authorities decree that all market milk except certified milk entering the city must be pasteurized. The practical result of this will be to shut out all milk which is now coming direct from the producers, and compel many of the small dealers to go out of business. The dairymen supplying milk direct are not equipped to pasteurize their product, and the margin of profit is too small to warrant their putting in the necessary machinery. The same applies to the small dealers who have but a limited number of customers and handle but a small bulk of milk. Business will then be concentrated in the hands of a few large wholesale dealers, and the control over both producers and consumers which has been developing in the past few years will be made complete. We may then expect these dealers to reduce prices to producers and increase prices to consumers as they please, as there will be little or no danger from troublesome competition. The new order will also enable the dealers to let down the bars to some extent on their own regulations in handling milk, as pasteurization, like charity, is supposed to cover a multitude of sins. There appears to be little for the dairymen to do except wait until the folly of general pasteurization is recognized and the order rescinded. The only alternative is combination and the installation of equipment to meet the new demands. Perhaps the new Dairymen's League will point a practical way along the line of combination. Let us hope so.

Farm profits depend primarily upon the crop yields. Profits, the cost of production and good selling. Under present market conditions the selling is less under the farmers' control than the other two. The criticism has been made rather frequently that the modern tendency in agricultural teaching is to specialize in methods of increasing yields to the exclusion of all else. The critics usually overlook the important fact that study of production methods stimulates similar study of costs and returns and quickens interest in all phases of farm development. But it is evident that increased yields alone will not solve the problem of increasing

profits. A recent report of a farm management survey made in one of the counties of a northern state gives some interesting figures on this question. On 135 farms, ranging in size from 80 to 120 acres each, the average labor income was found to be \$421. On 14 of these farms the yield was 16.3 percent above the average of the group, but the labor income was one dollar below the average. In other words, while the crop yields were considerably higher than the average, the cost of production was so much greater than the average as to bring the labor income below the standard of the community. On the other hand, 26 other farms of the same group fell 12 percent below the average in crop yields, yet showed an average labor income of \$835 per farm, or 98 percent above the average. Here were farms giving low crop yields, but so managed in cost of production as to show returns far above the standard of the community. These are examples of the apparent inconsistencies which are developed by such surveys, and are, no doubt, rare exceptions to the general rule. It must not be argued that high acreage yields mean low labor incomes, or vice versa. The figures merely show that from the standpoint of net profits, both factors must be given equal consideration.

Apple growers of Pennsylvania, Delaware, Maryland, Virginia and West Virginia have filed complaints with the Interstate Commerce Commission charging discrimination in freight rates on apples. The complaint charges that railroad rates on apples from shippers in New York and other Northern states to points in the South and Southwest are lower than those granted the shippers in the states named. The complaint was filed October 23, and named over 200 railroads as defendants. This is a matter of considerable interest to the apple growers in the states named. The increasing acreage of apple orchards makes necessary the development of new markets, which are found naturally thru the South. It is claimed that under present rates, the Northern apples are given preference and a price advantage because of difference in freight rates. The consumers are bearing their share of the alleged discrimination by being compelled to pay the higher rate of transportation. Every fruit grower of the Middle Atlantic states will sustain the complainants in the fight instituted.

The Department of Agriculture is seeking a means of increasing the production of pork and popularizing swine growing in new sections thru the organization of Boys' Pig Clubs. The organization work thus far has been largely confined to the southern states, but it is expected to spread as results are obtained. The plan was suggested by the great popularity of the corn clubs which have been in operation thru the South for several years. The corn clubs have been the means of awakening interest in corn growing and have pointed the way to improved methods, better varieties and better care, which have produced some record-breaking yields. The result of this work is not only shown in the higher average yields thruout the states most active, but has caused the adoption of corn as a rotation crop with cotton, which has given greater profits and benefited soil conditions. The new pig clubs are expected to do as much for the swine industry, and also add to profits by encouraging the marketing of corn thru hogs. Pigs are the natural supplement to corn growing, and the combination is necessary to the best success of either. There is room for such clubs and greater interest in swine growing in many sections of the East.

STATE CAPITAL NEWS.

Women Employment Law.—The new women employment law which went into effect on November 1 specifically exempts the home and farm from the operation of the law. In spite of this fact, the Department of Labor and Industry, which is charged with enforcement of the law, has been overwhelmed with inquiries in which some singular impressions are brought out. The law, in brief, provides that no female may work in any manufacturing establishment between 10 p. m. and 6 a. m. except as managers, superintendents, clerks or stenographers, and no female under 21 may work in any establishment between 9 p. m. and 6 a. m. except telephone operators over 18. This provision hits factories, stores, hotels, restaurants, theatres and many other establishments. The total hours per week allowed for women's work are 54, or 10 in a day, but not exceeding the weekly total. Operators in canneries, and nurses in hospitals are excepted from the act. The law very clearly excepts the home and farm.

Industrial Welfare.—An unusual conference met at the State Capitol last week in which representatives of almost every occupation discussed industrial welfare and efficiency. Every means of bringing about safety in industrial plants was discussed and probably much good will come from the free and easy manner in which the representatives of employers and employees got together. The keynote was struck, however, in a series of speeches by prominent national and state speakers who declared that while there was a spirit of benevolence abroad in the land and more effort was under way to better conditions than ever known before, yet this very eagerness caused trouble. The need of more study of such propositions as the minimum wage and employers' liability was emphasized and one speaker said that the best results could not be obtained until after close and intelligent study, considered aside from any political connections. The manner in which certain laws have worked out was pointed to as evidence of the necessity for making haste slowly.

Live Stock Activities.—State Live Stock Sanitary Board officers have inaugurated a series of prosecutions at Pittsburgh and Lancaster because of violations of the state quarantine laws on cattle. It is charged that cattle were shipped without the proper safeguards being observed. The State Board officers have been very active lately in watching interstate shipments and as a rule have had hearty support from the big dealers. Some violations in isolated cases have shown failure to observe regulations and the board has been acting with federal authorities.

Orchard Men in Session.—State orchard demonstrators and inspectors spent a week here under instruction from State Zoologist H. A. Surface in the work which they will inaugurate in the orchards of the state on November 10. It is expected to complete inspection of the balance of the 225,000 orchards in Pennsylvania and then the division will be in possession of complete data about every establishment. Every demonstrator will have specimens of the scale parasite with him at his demonstration and will show how it may be propagated by orchard owners. Work will be conducted up to January 1 at least and every county will have several demonstrations.

Stored Food.—Plans have been made to force out cold storage food stuffs when the time of legal storage is up. A complete report of everything in storage in the 77 commercial cold storage plants of the state is now in the hands of Commissioner Frost, and agents will check up on the stores of food in their districts and serve notice. What is not removed on time will be declared outlawed. It is believed that some of dozens of eggs will go out in December.

Agricultural Problems.—Practically every department of the state government having anything to do with living conditions will be represented at the conference to be held in December or early next year. The purpose of the conference is to solve agricultural problems and for discussion of the high cost of living. The State department of agriculture plans to have a corps of its men there to discuss the various branches of endeavor, educational, scientific and preventive.

Soil Examinations.—State Agricultural department agents are engaged in making examinations of soils in communities where conditions of an unfavorable nature have been reported. This work is being helped along by

farm counsellors who have been paying special attention to soil matters and giving advice on crop planting, fertilization and other details. In some cases samples of soils have been subjected to chemical analysis and farmers told just what they must do for the next two or three years to obtain best results. In many sections it has been found that consideration of the soil has been almost neglected. Every effort to lend expert aid from state laboratories will be made.

Ohio Corn Boys Coming.—An event of interest at the Capitol will be the visit of the Ohio Boys' Corn Club. These boys, whose number exceeded a thousand last year, get a trip to Washington in recognition of their efforts for growing of corn, and it has become the custom to stop off at Harrisburg, where the boys may see the Capitol and hear speeches by the governor and others.

Corn Shows.—A. L. Martin, deputy secretary of agriculture, reports more corn shows being held now than ever before. Scarcely a county in the state which does not have several local shows. The stimulus given to local competition will have important results some day. Some day it may be possible to give State aid to agricultural progress. Such aid would be as much for the ultimate public good as the thousands now bestowed on hospitals which ought to be supported by their local communities.

Money for Townships.—The auditor general's department has begun the sending in the State Treasurer of warrants for the payment of the 50 percent road bonus to townships which collect cash road tax. The formal requisition for this money was made back in August by the highway department, but it is contended that the payment of school districts was more important and that the money was held back.

Economy Plans Next.—Within a short time a commission will be named to make a study of the state government departments and to recommend to the next legislature a means of getting more work out of a smaller force. This commission is the outcome of a movement started in the last session and it will be interesting to see how many useless positions are lopped off and what the legislature does with the recommendations.

Ballot Suits.—People thruout the state will have a rest from election and nomination laws for a while as it is not the intention to have the test cases brought up in court until next spring, when the primaries for the legislature and various state offices will be held. It is believed that the constitutionality of the non-partisan ballot will be upheld.

No Bounty Payments.—Payment of bounties to hunters who kill foxes and the various birds and animals upon which the state sets a price will be at the expense of counties for a while as yet, as the auditor general has raised the question whether the appropriation of half of the income from hunters' licenses can be legally appropriated to reimbursement of counties for payment of bounty without a specific sum being so designated by the legislature. This is the same principle as the use of the automobile license money now in the courts. These are the days of careful walking in the fiscal departments of the state government, but once in a while the people have to pay expenses of law suits.—Hamilton, Harrisburg, Pa., November 3.

NEW JERSEY FARM NEWS.

Truck Farmers Have Late Season.—Right up to the first of November the truck farming season was prolonged, meaning thousands of dollars to those engaged in that branch of agriculture. Warm weather continued later this fall than for a number of years. Fearing falling temperatures, immense quantities of tomatoes were gathered from the vines and laid out under glass in either greenhouses or hotbeds. Such tomatoes, if carefully handled, will continue to ripen up gradually until Thanksgiving. Tomatoes are now selling for \$1.60 per quart. Pumpkins and squash are now going to market. Onions, cabbage and turnips will not be marketed until later. Apples are a short crop and will be held for higher prices. Kieffer pears are selling for \$1 per bushel hamper.

The Cranberry Trade.—There is but a small demand for cranberries at present, notwithstanding that the crop is about 50 percent below normal yield. Berries that have been sent to market are inferior, as many were soft when shipped, and growers do not anticipate higher prices until the poorer berries

have been sold. Reports received from Cape Cod say that during the recent cold snap about 56,000 barrels of cranberries were ruined by frost and a subsequent snow storm. The growers there did not succeed in harvesting the crop as early as usual and the heavy loss reported will probably have a tendency to increase the price of good sound fruit. The yield in Wisconsin is also below normal. Practically all of the cranberries grown in the United States are produced in the latter State, New Jersey and Massachusetts. New Jersey growers are yet optimistic and believe that good prices will prevail around the holidays, when the demand is the heaviest.

The Dahlia Industry.—Dahlia growing in Southern New Jersey are enjoying an unprecedented season, both in the yield of their plants and the lateness with which they have been able to market the flowers. Besides the noted Peacock dahlia farm at Ateo, a great many smaller farms have been started and a tremendous harvest of blossoms has been out. The light soil in that section seems well adapted to dahlias and they flourish wonderfully. A few farmers who have gone in for floriculture on a small scale have found that the dahlias pay them better than most of their truck crops.

Bee and Honey Show.—A new feature of the show of the Monmouth Poultry Club at Asbury Park on November 24 to 29, will be an exhibition of bees and honey. The raising of bees has become such an important industry in New Jersey that the State government maintains a department of bee culture. The poultry club has offered valuable prizes for bee and honey exhibits. Professor E. J. Carr, the State bee inspector, will be at the show and will give exhibitions of extracting honey from the comb and the hiving of bees.

Want Farmers as Legislators.—At the annual harvest session of the Pomona Grange of Burlington County, N. J., a demand was made for fewer lawyers and more farmers in the State Legislature. That agricultural counties of the State should have agriculturists to represent them in the law-making body was plainly the sentiment of the gathering, as voiced by the various speakers. Many of the farmers expressed themselves in favor of a change in the school laws that would give the rural communities more control over the spending of local school moneys. Altho recognizing that great strides have been made in the improvement of rural schools under the State Educational Commission, resolutions adopted at the Pomona demanded more home rule on local matters. Reports were that the season had been a good one. Double cropping was more widely practiced than ever before, with satisfactory results.

Milk Standards.—The aim of the State Board of Health is thus summed up by the superintendent of the bureau of contagious diseases: "We want to bring the milk standard in New Jersey back to 12 percent of solids and 3 percent of fats. It was before being lowered to the 11 percent standard, because no scientific reason could be given legislators for keeping it at 12 percent. Altho there has been much evidence of a great epidemic caused by impure milk, we all know of the many cases of typhoid caused by impure milk. A scientifically pure milk cannot be sold for less than 10 to 15 cents a quart, so our task lies in educating the people up to a better standard of milk and co-operation with the milk dealers by paying the right price for the right kind of milk."

Milk Ordinances.—The city of Long Branch, following in the footsteps of a great many other municipalities in the State, has appointed a health officer who will inspect dairy premises and make frequent analyses of samples of milk. Further than that, the milk will be classified and properly labeled, so that the purchaser will be able to tell very readily what he is getting. A new city ordinance has been formulated, and as it follows approved recommendations by the State authorities, the same is given here. Grade A. Raw Milk, will be the best quality. It must come from cows which have been examined by a qualified veterinarian and declared perfectly healthy, and from dairies showing inspection of a high degree of cleanliness. Grade B. Raw Milk, will not be so pure as the former grade and will come from dairies not reaching such a high standard upon inspection. Grade C. Raw Milk, is the poorest quality allowed, and is recommended only for cooking and manufacturing purposes. If pasteurized milk is desired, it can be obtained, so labeled on the caps of the

bottles. In order to give a meaning to these various ordinance dairymen think that the prices they receive for their milk should correspond with the mark upon their dairies by the inspectors.—D. T. Hendrickson.

MARYLAND NOTES.

Eastern Shore Crops.—The Eastern Shore is destined to become both an apple and Irish potato growing section. The many new orchards that are being put out plainly foretell what is to come. Apples produced in the Maryland peninsula have proved that yield, coloring and fine flavor equal that of any state, and as for size they cannot be excelled. Last year's record showed a product of 581,730 baskets shipped. Up to the present time, October 23, total shipments have been 152,405 baskets. Farmers who grow winter apples have hardly commenced to ship or sell for cold storage. Potato shipments have already reached 211,095 barrels in comparison with 184,912 last year. The prevailing high prices of the tubers have encouraged the growers so that already preparations are being made to have an increased acreage next year. A recent discussion proved that the section can be made a great celery crop producer, and of fine quality. The railroad officials are arranging for a tour of the Eastern Shore to take up the industry with the farmers. A celery growing expert will accompany to explain the methods of celery growing.

Miracle.—The club discussed "The Ad Farmers' Club held its last meeting at Walter F. Seagle's farm. The committee found the farm in much better condition than heretofore as kept by its present owner. Mr. Seagle is preparing to start in the dairy business, and has bought a number of heifers. Two new varieties of wheat, Leaps Prolific, and Miracle, are being investigated by Mr. Seagle. The club discussed "The Ad Farmers' Club held its last meeting at Walter F. Seagle's farm. The committee found the farm in much better condition than heretofore as kept by its present owner. Mr. Seagle is preparing to start in the dairy business, and has bought a number of heifers. Two new varieties of wheat, Leaps Prolific, and Miracle, are being investigated by Mr. Seagle. The club discussed "The Ad Farmers' Club held its last meeting at Walter F. Seagle's farm. The committee found the farm in much better condition than heretofore as kept by its present owner. 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Household

THE LILY-OF-THE-VALLEY.

Few flowers are more universally admired for their beauty and enjoyed for their fragrance than the lily-of-the-valley, and none are more easily grown in the garden or in the house if their few simple requirements are complied with. The fact that it may be brought into bloom within a month from the beginning of the forcing period, coupled with its other desirable features is making it one of the most popular flowers for mid-winter use.

Because everyone is, just now, interested in planning the winter garden we will give first consideration to the forcing of the pips and, whether they are purchased from a florist or lifted from the garden beds, the foremost fact we need to consider is that they need freezing to ripen them. This explains why dealers do not put them on the market before November.

When the pips are not in hand, pot them, from six to a dozen in a pot, and place them outside where they will freeze. If a number of pots are filled they may be sunk in the garden beds, banked up with soil or ashes (coal), or put into the cold frame and covered to exclude light. Treated in this way they need very little attention and may be brought to the light and warmth a few at a time to keep up the succession of bloom. If more convenient, the pots may be kept in cellar or shed, where the temperature is at or near the freezing point.

When brought out for forcing, it must be remembered that the change from darkness to strong light should be gradual, but after two or three days strong light, moisture and warmth, more especially for the roots than the tops are required for rapid development. Expert growers keep the tops of pots filled with moss to protect the tips of the pips, claiming that if these get thoroughly dry the flower-buds will blast.

If there is a good bed of strong plants in the garden, pips may be taken up, after the ground freezes once, and given the same treatment as those secured from the florist. These home-grown pips will nearly always give fairly good blooms, altho as a general thing they do not equal those specially treated before forcing.

Forcing lily-of-the-valley (and all sorts of bulbs) in fibre is a new method made possible by the introduction of a prepared fibre that many dealers now handle. This material is a disintegrated peat imported from Holland and so prepared that it contains all the needed plant-foods in a form to be quickly assimilated by the plants. The fibre is used instead of soil and if kept all ways moist, but never soaking wet, gives splendid results.

Out-of-door Culture.—Prepare a bed in a semi-shaded place, spading the soil well and enriching it with thoroughly rotted manure from the barnyard, or with leaf mold from the woods. In November, or later, plant the pips and cover lightly with leaves. Do not plant too closely, as the pips multiply very rapidly and after a time become so crowded that the blossoms become smaller. When the soil becomes filled with pips, take them out in blocks, or clumps, and fill in the spaces left with new soil.

One can hardly have too many of these flowers and as they will naturalize themselves and thrive in fence corners, near the edges of streams, at the edge of woodlands and, in fact, in almost any partially shaded place, it is a good plan to plant the clumps lifted from crowded beds, here, there and

everywhere, and let them grow and spread out naturally.—Eva Ryman-Gaillard.

HANDY TOOL BASKET.

Saves Steps and Soothes the Soul.

We nearly all know about the tragic story of a lost horseshoe nail. We read in our readers long ago that for want of a nail a shoe was lost, and so until a battle was lost. But most housekeepers know from experience when for want of a nail a temper was lost, and that is of much more importance to the family at hand than is the battle which was lost so many years ago. Just to provide against such a catastrophe, a handy tool basket was established in our home.

The receptacle was a small fruit basket and most of the tools kept in it came from the five and ten-cent stores. The original furnishing, with the cost of each tool, was as follows: Tack hammer, 10 cents; tack claw, 5 cents; box 8 oz. tacks, 5 cents; screw driver, 10

missing. Sometimes a screw would be lost and by replacing it at once, further damage would be prevented. The putty knife is invaluable in cleaning out corners. Every one knows in house-cleaning time how hard it is to get the dust out of the corners, and in sweeping down stairs the lint collects in the corners. The putty knife will take out dust, lint or any kind of dirt without trouble.

The handy tool basket has been loaned to the other members of the family, but the rule strictly enforced has been that the basket intact must be borrowed and not one tool carried away at a time. If that were allowed, the tools might be scattered and the value of the handy tool basket destroyed.—N. D. H.

HOW TO USE PRUNES IN COOKERY.

By Marion Harris Neil.

Prunes are rich in saccharine matter and phosphates, and are of a laxative



LILY OF THE VALLEY; ALWAYS A FAVORITE.

cent; handy nail box, (with assorted sizes), 5 cents; putty knife, 5 cents; hooks (assorted), 10 cents; screws, 10 cents; box brass-headed tacks, 10 cents; scissors, 10 cents. The whole cost of the tools was less than one dollar, and never was money better expended.

Upon looking this basket over recently I found that a roll of sandpaper, box of picture wire, box of tiny tacks and a pocket case of handy tools had been added. The last named was a present, and a highly prized one. By unscrewing the top of the handle one can select a brad, an awl, a gimlet, screw driver or chisel, and screwing this into the lower part of the handle, have a tool ready for use.

By the aid of the handy tool basket I have not only been able to put up hooks and screws as I needed them, but have kept many things in order when just a tack, screw or small nail was

nature, so are a valuable food. As they are moderate in price, they are within the reach of all. Stewed prunes appear on the menu of every hotel, restaurant and boarding house, and possibly this is a case where familiarity breeds contempt, for we certainly do get tired of the everlasting stewed prunes. The prune is not a fruit, however, which lends itself to much variety. The only thing is to combine it skillfully with other foods, and furnish a pleasant variety.

Prunes and Apples.—Stew one pound of prunes. Peel and core four good sized apples and place three or four stoned prunes in the center of each and cook in a syrup made of sugar and water, well flavored with cinnamon. cloves, the strained juice and grated rind of a lemon, and a few drops of red coloring. Stew till cooked, basting well. Place in a glass dish, put a table-

spoonful of whipped cream on the top of each apple, arrange stewed prunes and some of the syrup in which the apples were cooked around.

Prune Souffle.—Boil one cupful of milk and thicken it with two tablespoonfuls of cornstarch, mixed with a little cold milk. Let it boil for five minutes, stirring all the time, take it off the fire and let it cool a little, then add the yolks of two eggs, one cupful of sugar, and one and a half cupfuls of prunes which have been cooked and rubbed thru a sieve. Add one teaspoonful of lemon juice and one tablespoonful of sherry wine. Whip up the whites of the eggs until stiff and fold gently into the mixture. Put into a buttered pudding dish and bake for half an hour.

Prune and Bread Pudding.—Stew half a pound of prunes till very tender, stone and remove the kernels, and chop finely. Put one and a half cupfuls of breadcrumbs in a basin, add one teaspoonful of sugar, one teaspoonful of molasses, one teaspoonful of ground ginger, cinnamon and nutmeg mixed, one ounce of chopped citron peel, one teaspoonful of baking powder, two well beaten eggs, the juice from the prunes, mix well with the chopped prunes, adding as much milk as needed—it should be rather moist. Pour into a well greased mold, cover with a greased paper, and steam steadily for two hours.

Prune Kuchen.—One-fourth of a cupful of butter, two cupfuls of flour, two tablespoonfuls of sugar, one-fourth of a teaspoonful of salt, two teaspoonfuls of baking powder, one egg, two-thirds of a cupful of sweet milk, half a teaspoonful of lemon extract, one cupful of cooked prunes. Sift the flour, baking powder, sugar and salt three times, then rub the butter finely into them, then add the egg well beaten, lemon extract and the milk. Pour the mixture into a greased pudding dish, press the prunes into the mixture skin down. Brush over with melted butter, sprinkle with sugar and cinnamon and bake for twenty-five minutes in a moderate oven. Serve with the following sauce: Cream, one cupful of sugar with half a cupful of butter, then add one cupful of cooked mashed prunes and a few drops of lemon juice.

Prune Blanc Mange.—Wash half a pound of prunes well and soak them for twenty-four hours in the water in which they are to be cooked, add the thinly peeled rind of half a lemon and, if liked, half a stick of cinnamon. Let them simmer gently until quite tender, but not broken. Remove the lemon and cinnamon stick, sweeten to taste, put them in a deep covered dish, and let them stand till cold.

For the blanc mange mix together two tablespoonfuls of cornstarch with one tablespoonful of milk till smooth, pour in one cupful of milk, and put into a saucepan that has been rinsed with cold water, stir constantly over the fire till it boils, and boil for fifteen minutes; this ensures it being perfectly cooked, and as smooth as cream. Add one teaspoonful of vanilla extract and pour into a mold that has been rinsed with cold water. Let it stand till cold, then shake to free the edges from the mold, and turn out.

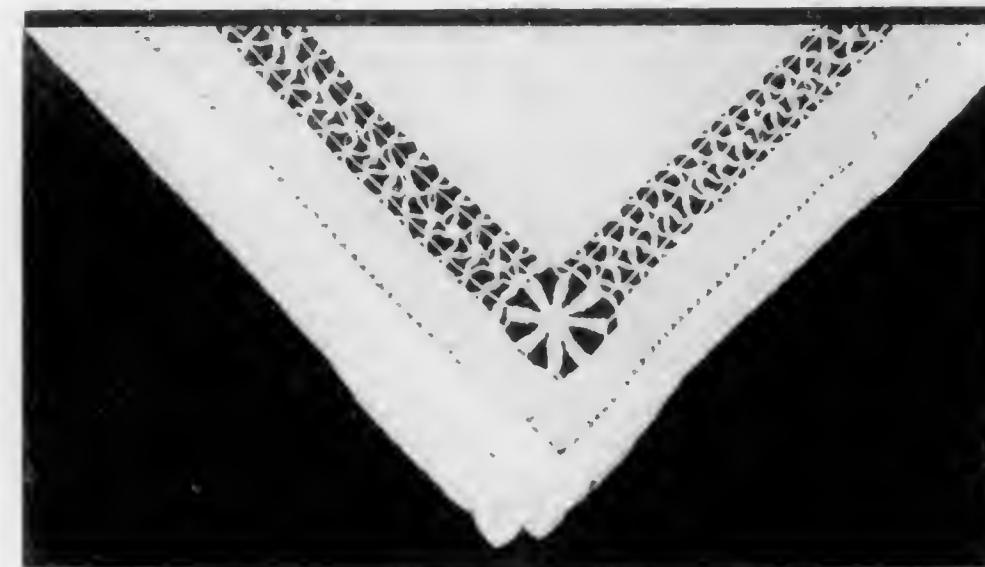
The prunes should be arranged round the dish, with a little of the syrup poured over them, or a ring mold may be used, and the prunes arranged in the center. This is more ornamental, and a few strips of angelica arranged as stalks to the fruit will heighten the effect. Failing the ring mold, a plain round mold may be used, and a jelly can be placed in the center before pouring the cornstarch. It, of course, must be well wetted in cold water, and removed before turning out.

Prune Sauce.—Prune sauce is

by some people as an accompaniment to roast pork instead of apple sauce. It is made much the same way. Cook the prunes with enough water and half a lemon till perfectly soft, then rub thru a sieve. Return to the saucepan, add one tablespoonful of sugar, allow to boil up, and serve.

Prune Meringue.—This is one of those combinations which makes variety. Put a band of short crust pastry round a pudding dish, then cook this by itself. Stew half a pound of prunes. Now take two fresh eggs, and separate the yolks from the whites. Beat the whites to a stiff froth, add to them two tablespoonfuls of sugar and half a teaspoonful of lemon extract, and force the mixture out of a forcing bag and tube in a pattern on top of the band of pastry. Put into a cool oven to harden. Fill the center with the prunes and syrup. Use the yolks of the eggs to make lemon cream sauce to serve with the prune meringue. Put the yolks of the eggs in a basin, and beat them up. Put the grated rind and strained juice of one lemon in a small saucepan, add one cupful of water and four tablespoonfuls of sugar. Boil for five minutes, then pour over the yolks of eggs, stirring all the time. Return to the pan with one teaspoonful of cornstarch. Bring to the boil, and cool.

Prune Fritters.—Stew one-fourth of a pound of prunes in a little water, then rub them thru a sieve and add half a teaspoonful of lemon juice. Split



SHOWING EFFECT OF OF DRAWN WORK.

some stale sponge cake in two and then in half again. Put some of the prune mixture on the halves and then press them together like a sandwich. Brush over with beaten egg, toss in cake crumbs and fry quickly in smoking hot fat.

HANDKERCHIEF WITH DRAWN-WORK BORDER.

A narrow hemstitched hem finishes the dainty handkerchief pictured. The border itself is half an inch wide, the threads being withdrawn for that space along the edges. This leaves the corners in the form of an open square, and the outer edges of these must be buttonholed closely in tiny, even stitches. Also hemstitch each edge of the drawn spaces in parallel groups of five or six threads each.

For the filling design fasten one thread in the center of one side of the open square, and carry it across this square, knotting it about two adjoining groups of the hemstitched threads. Weave around this knot a couple of times, under and over the grouped threads, and proceed to knot about the next pair of hemstitched clusters, and weave around the knot. This process is continued until one-third of the side has been thus treated, when five clusters are knotted together. The work then goes on as before, until two-thirds of the space is finished, when another group of five clusters must be knotted

together. The knotting of pairs then continues to the open corner square, and the thread is carried across this space, as in starting, fastening it in the buttonholed stitches.

Another filling thread is carried from a short distance from one outer corner of the square, diagonally to the opposite edge of the drawn space, where it is knotted to the first cluster. It is then knotted about each consecutive pair, except at the points where five clusters were joined. Here the thread is carried diagonally across this group and knotted to the first cluster on the opposite edge, and then proceeds, knotting pairs each time. Another thread is carried along the opposite edge of the drawn space in the same manner, making three in all.

Additional diagonal threads are carried across each open square in the form of a cross, and all the threads are knotted at center, and woven about a few times. The weaving is then completed in sections, two threads for each. The figures along the sides are made by knotting all the threads and clusters together in the center, and weaving out separately on four divisions of four groups or threads each. This weaving continues about half of the space, and is finished off on the two central spokes in each case. Between these woven devices little blocks of weaving are placed on the adjoining threads or clusters previously dropped from the groups of four.

This design may be used with equal

propriety on dollies, squares for stands, dresser sets, curtains, waists, etc. On heavier material the band will be much wider. For the fine handkerchief linen used in the illustration, lace thread or spool cotton No. 100 should be used for the filling. For heavier work a hard twisted embroidery or crochet cotton or linen will answer for the filling threads, but a softer embroidery cotton should be used for the weaving, as it works up prettier for solid effects.—Mae Y. Mahaffy.

FOR THE KITCHEN NOTE BOOK.

Removing Paint.—A little vaseline or lard, (or butter) will remove paint or varnish from the hands. Rub the grease on the hands and then use plenty of hot water and soap. Lard is good to soften paint on washable clothing as well. The grease must be thoroughly rubbed into the paint spots before the garment has been wet.

Turpentine, (spirits of turpentine sold by druggists) applied while the paint is fresh, will often remove paint spots from woolen clothing. Ammonia will also cut paint, but care must be used not to use it too strong a solution lest the color of the goods be injured.

Washing Flannels.—An easy and particularly good way to wash flannels is to shave up some good white soap and boil until dissolved in soft water. Get three tubs ready, with water in each about as warm as milk when it comes

from the cow. Put plenty of the dissolved soap in the first tub and a less amount in the second. Wash the flannels thru the water, squeezing with the hands as much as possible and using the wash board only as is absolutely necessary. If more soap is needed, put the dissolved soap in the water. Do not rub soap on the flannels. Wash thru the two waters, rinsing in the third. Squeeze out the water, wringing as little as possible. Hang up the flannels at once. Sweaters washed this way and then hung to dry on a coat hanger in a warm place look just as good as new, and shrink very little.—N. D. H.

Soft Frosting.—A delicious icing for cake is made by taking 2 cups of confectioner's sugar, $\frac{1}{2}$ cup of butter, 1 tablespoonful of cold coffee, and 2 tablespoonfuls of cocoa. Cream the butter, add the cocoa and lastly the coffee. Beat thoroughly for about three minutes. This frosting is not intended to be stiff. Be sure to use confectioner's sugar or the result will not be good.—N. D. H.

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Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt and age for children's patterns. Address Pennsylvania Farmer, 214-18 So. 12th St., Philadelphia, Pa.



6304—Ladies' Three-Gored Skirt.—Five sizes—22 to 36 inches, waist measure. Size 24 requires 4 yards of 36-inch material. Width of lower edge, 14 yards. Price of pattern, 10 cents.

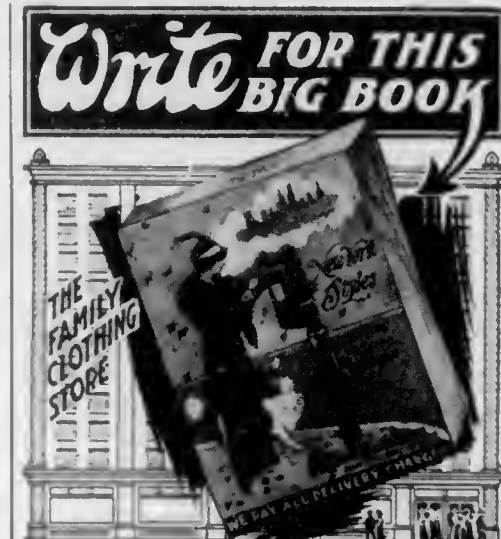
6428—Misses' and Small Women's Dress.—Three sizes—14, 16 and 18 years. Size 16 requires 14 yards of 36-inch plain goods, and 24 yards of striped goods, 36 inches wide. Price, 10 cents.

2818—Children's Collar, Muff and Normandy Bonnet.—Seven sizes—1 to 7 years (bonnet corresponding to 34 to

64 hat size, or 18 to 20 inches, head measure. For 3 years, bonnet needs 4 yard, 20 inches wide; collar needs 4 yard, 14 or more inches wide; muff, 4 yard, 20 inches wide. Price, 10 cents.

6430—Children's One-Piece Apron.—Five sizes—2 to 10 years. Age 6 years requires 18 yards of 27-inch material. Price, 10 cents.

6413—Ladies' Blouse Coat.—Five sizes, 34 to 42 inches, bust measure. Size 36 requires 4 yards of 36-inch material, 44 yards of 44-inch material. Price, 10 cents.



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Looking Over The Fence.

By THE COUNTRY PARSON.

City Convenience and Country Comforts

As I compare city and country houses, I find that the latter usually lack three things to which the comfort of the city home is largely due: A plentiful supply of hot and cold water, convenient lighting arrangements and reliable provision for sewerage disposal. As a rule, the home of the city-dweller lacks air and light, nature's two great germ destroyers. This is not only true of the tenement, but it applies to the homes of most people who live in the closely built residence sections of any of our eastern cities. But every city home usually has hot and cold water, gas or electric lighting, a bathtub and a flush closet.

The country home, of course, has air and light, unless these are cut off by a superabundance of shade trees too close to the house. Too many and improperly placed trees are worse than none, for the home should have plenty of air and sunlight. It is often placed too near the country road, which robs it of the comfort of privacy and exposes it to the detrimental influences of dust and dirt. For this there is no justification. With an entire farm to select from, there is no excuse for the improper location of the house, which should neither be placed too near the public thoroughfare nor in some valley or hollow, but on some fairly high, well drained spot. If, in selecting the building site, a spot can be found which commands a good view of the farm and surrounding country, so much the better. If it is true that a thing of beauty is a joy forever, it is ten times true that a fine view is a joy forever.

If you have never realized that, just go out to Arlington, if ever you are in Washington, and take a look at the building site with its magnificent view down the Potomac Valley, selected by the Lees for their home. It makes a man's heart jump every time he steps out on the front porch and looks at the glorious sight. That, I think, is something worth while. There may be people who are satisfied to live under conditions which might be compared to a man trying to look thru a crack in a board fence, but I must confess my utter inability to be content in such a position. I can at this moment close my eyes and recall the view out of the dining room window at home, as I saw it thirty years ago.

I can also recall the well near the kitchen door with its one bucket and windlass. It was over 60 feet deep and walled with stone. Every drop of water for use on that farm had to be painfully and laboriously drawn from that one well. Watering the stock, especially in the winter time, was a back-breaking job, which lasted a full hour. The water was "hard" and rain-water was caught in barrels for washing purposes. These uncovered barrels were breeding places for mosquitoes. The water problem on that farm was an ever-present nightmare. With the help of a windmill, it has now been partially solved, but when I compare the solution with the conveniences offered by the abundant water supply in a city home, I must say that it is a poor makeshift. Meanwhile the memory of that well and its bucket remains, nor, however, as one of the scenes of my childhood particularly dear to my heart.

Every farmer manages somehow to persuade himself that he has the best tasting water in the neighborhood. He is fond of taking you to the well, expecting you to praise it. I have not met many farmers who took me into the

house and showed me a hot and cold water spigot. And yet, no factor on the farm—not even the soil itself—is of more vital importance than an abundant and convenient supply of pure and wholesome water.

I also remember the daily task of cleaning and filling lamps and lanterns. It also took a full hour of time. The washing and cleansing of smoky chimneys, together with the handling of the malodorous kerosene was left to the women folks. Perhaps the family seated around the table, each trying to get a little of the light dispensed by the one lamp, is as poetic a theme as the old oaken bucket. As I remember it, it was a very poor light. It had one virtue. It sent the family to bed early. The lampstands on the parlor organ were a nuisance. Whenever there was company and music or singing, several lamps were pressed into service. Finally, the hanging lamp was invented. Now the farmer has gasoline lamps and other contraptions. But to a man who has lived in the city, this whole lighting question in the country home is a most unsatisfactory thing.

I also remember running out with a lantern to meet a team coming in late at night, or groping around in the dark to get a team under shelter before going into the house for one and having it blow out two or three times before I could reach the barn. Striking matches in or near the barn at any time was, of course, strictly forbidden. I can also remember feeding and milking with the dim light of one or two lanterns.

I have now lived in the city long enough to be somewhat critical or the question of lighting arrangements. I have yet to find the farmer who feels as I do about this matter. Perhaps the farmer's wife, who day after day goes through the monotonous and disagreeable task of cleaning lamps and lanterns, will understand, when I say that convenient lighting arrangements are woefully lacking on most farms.

Then comes the question of reliable provision for sewerage disposal. Usually no provision whatever is made for this most essential feature of a home, with the result that the careless disposal of house sewerage has cost the American people millions of lives. What city dweller ever thinks of sewerage disposal? That proper provision should be made for that is self-evident. It is not so in the country. Plumbing and all that that term includes, bathtub, flush closet, arrangements for the discharge of bathroom water and kitchen waste, are usually altogether lacking in the average farm home. What this means nobody knows but the farmer's wife.

We are talking of rural engineering. If I were king, I would command every rural engineer in this country to forget all other questions until he had found ways and means to provide, at a reasonable cost, every ordinary farm home with just as good a water supply, lighting arrangements and provision for sewerage disposal as are to be found in the average city home. If we had that, nobody would care to live in the city, and country life problems would be in a fair way to solve themselves.

THE CITY MAN AND THE FARM PROPOSITION.

I read the article in the Pennsylvania Farmer some weeks ago in which a city man told of his investigations of the farm as an investment, and his conclusion that he would not buy a farm. He went at his task in a business-like way, and he thought he found, after fully considering all the data and evidence on the subject that he was able to acquire, that the farm is not a good financial proposition for the competent business man.

At this time when there is being so

much written on the subject of going back to the land as a remedy for over-consumption and short production, and consequent high prices, and when good business men find their work in the city too strenuous, and having some capital are looking to a farm as a solution of their problem, we surely want the facts.

Without wasting time for further introduction I want to present some evidence on the subject. A few years ago I made some investigations for an agricultural paper, and visited many farmers in New York in units of 100, each unit located in different parts of the state. In this work I figured with each farmer as to an authentic statement of his receipts and expenses, and his net profits, or labor income, and its percent on his investment. I was also instructed to take especial pains to ascertain as to the agricultural education of each farmer. Twenty-five percent, or 25 out of every 100 farmers visited, were receiving a labor income of at least 20 percent on their investment, which means that if the value of the farming plant is \$10,000, the owner, after paying all his bills and interest on his investment, receives a salary of \$2,000, while some received considerably more.

Every one of this 25 percent read several of the best agricultural papers, besides agricultural text books. They attended farmers' institutes when in need of information. They were generally men of more than ordinary education and intelligence.

A few of the remaining 75 percent read no agricultural papers or agricultural literature of any kind, and did not believe that such literature as the state institutions could send them, or the agricultural papers could be of any benefit to them. They were, in fact, prejudiced against what they called "book farming," and were distrustful of professors and teachers in agricultural colleges, and lecturers at farmers' institutes. They generally read only a local town paper.

As I interviewed these farmers and figured out their profits, I found almost

invariably that the farmers with the larger labor income were in a large degree so well educated that they were practicing the latest modern methods, and those with the smaller incomes used none of the opportunities now offered, and were so "conservative" about practicing methods taught by the papers and schools that they stayed in the same old ruts. It would seem that this is conclusive evidence that intelligent and business-like farming is paying very good salaries to men who pay no rent for residence, and have garden vegetables, fruit, eggs and milk free of cash cost. For the 25 percent of progressive and prosperous farmers I have cited, I have given their average profits. Some were doing better than indicated. I visited one farmer who kept a herd of 8 pure-bred cows, with an average yearly milk production of 15,000 lbs. of milk per cow, which, at the price of market milk, is worth at least \$230 each, or \$1,840 for the herd; besides, there is a considerable amount for surplus pure-bred cattle. This man kept a large flock of hens and the sales from these and for other by-products of his little farm pay the larger part of the grain bill for the cows. His business was so small that himself and family could do nearly all the work alone. It is not difficult to figure that he receives a labor income of above \$1,000 per year, besides house rent and farm products used in the family.

Next, an instance of farming on a larger scale. Not many miles from the farmer just mentioned is the farm of a dairyman and breeder who has climbed clear to the top in his business. With about 60 cows, his net income the year in question was nearly \$100 per day, which can be proven by his book. His cows average above 10,000 lbs. of milk each, but his main income is from the sales of tested and developed cows. He sells the best strains of blood and his prices are high. One cow ran up to \$8,000. This man is an expert breeder. He has studied breeding principles and practice and he is a good business man. Now as to orchard farming. I have

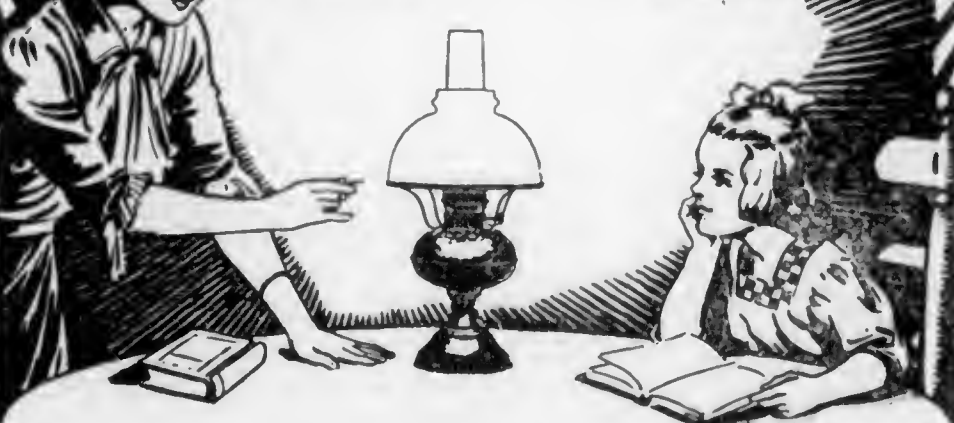
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seen an acre of apple orchard that yielded \$1,600 for one crop, and the net profit was close to \$1,400. These trees were managed by a man who has studied orcharding as a science, and has given his orchard high culture. The writer has realized fully as much per acre in intensive market gardening on small plots. I can furnish the names of the above-mentioned farmers and corroborate the statements made as to their profits.

If a man were to prepare himself for a profession he would need to take expensive courses of study. Without this preparation he would not expect to succeed. The farmer should be an agriculturist and practice his profession. It is now just as good form for rightly educated farmers to write agriculturist after their name as for another man to write M. D., or Counselor at Law, etc. The city man who decides to take up the farm proposition certainly needs a course in training for farming as much as he would for any other profession. There are men all over our country demonstrating that the right kind of farming makes a good living, and I have seen the homes of this class and know that they enjoy most of the comforts of the city home and many of its luxuries.

In brief, the essentials that bring success in farming, with all the certainty of cause and effect, is a taste or love for it, a proper training, as in any other profession, health or good habits of life, some capital, and perseverance. The man with his mind filled with erroneous beliefs about farming is like the countryman ordering a course dinner from French menu. After ordering the first four items on the card and finding them all soups, he ordered all the remaining bill. When it was placed before him, he said: "This is the opportunity of my life, and I am full of soup." This age presents the greatest opportunity for profitable farming ever known, because of modern science, invention and research, but men are not ready to make use of these opportunities, because they are full of soup—erroneous beliefs and traditions about farming.—W. H. J.

Grange

NATIONAL GRANGE NOTES.

Altho the National Grange session does not open at Manchester, N. H., until Wednesday morning, November 12, there will be a public meeting on Tuesday evening, November 11, with Mayor Hayes of Manchester presiding. State Master C. E. Spence, of Oregon, will respond to the mayor's welcome, and other speeches will be made by State Master T. C. Laylin, of Ohio; Past State and National Master Ilon. N. J. Baehelder, of New Hampshire; Governor Felker; National Master Oliver Wilson, of Illinois, and others. There will also be a public session on Wednesday evening, when Secretary Houston, of the National Department of Agriculture; Mrs. Esther Pattee, Ceres of the state and national grange, and other speakers will be heard. A conference of lecturers of state and local granges will be held on Friday afternoon.

On Saturday afternoon the delegates and visitors will be the guests of the city of Concord. There will be business sessions every morning, and on some of the afternoons and evenings of the second week. The bi-ennial election of officers will be held on Tuesday, November 18. The manufacturers of the city of Manchester will exhibit the products of their mills in a building of 20,000 square feet of space. There will be a modern loom in operation and

shoes and cigars will be manufactured to exemplify "how the thing is done" to those not familiar with the manufacturing industries of Manchester. This exhibition will be open the last four days of the first week.

In the words of National Master Wilson, in his greeting to Patrons of the United States: "This will be the greatest gathering this great order has ever held. Interest and enthusiasm will run high. Many of the great questions affecting the life of this country will be discussed and the action taken thereon will have large bearing upon the future of the Nation."—D.

A NEW HAMPSHIRE GRANGE CASE.

A case involving the question of jurisdiction in regard to taking membership in the grange has just been argued before the Superior Court of the state of New Hampshire and is of much interest to members of the order everywhere. Briefly stated, the facts in the case are as follows: Plaintiffs in the case had been duly elected to membership in Somersworth grange, fulfilling all requirements for such initiation and membership. After having been members of said grange about three months, they were refused admission to the hall of the grange where and when meetings of the grange were held, and excluded from all the benefits and privileges of membership, without having any charges preferred against them for any cause. They then petitioned the Superior Court for an injunction temporarily restraining and enjoining Somersworth grange from refusing said petitioners admission to the grange hall and meetings of the grange, and from the rights, privileges and pleasures to which they claimed to be entitled by fact of membership.

A writ of temporary injunction was granted petitioners, and the Somersworth grange, the New Hampshire state grange and the National Grange, defendants, were notified to appear at the September, 1913, term of court to show cause why the temporary injunction should not be made permanent. At the trial, the defense was on the ground that the plaintiffs in the action had not been properly admitted to membership in Somersworth grange in that they resided within the jurisdiction of another grange and that no waivers of that grange were requested by Somersworth grange for the admission of the plaintiffs in the action. In all other ways, it was admitted by defendants' attorney, they were entitled to admission except as to jurisdiction. Judge Young, of the Supreme Court, heard the case, and on the following day decided in favor of the plaintiffs, and the original temporary injunction against Somersworth grange was made permanent. It is said that the case may be taken up to the Supreme bench on an exception which has been taken by counsel for the defendants.—D.

AMONG NEW JERSEY GRANGES.

Allentown Grange, No. 98, recently held a very successful harvest home. The receipts were \$650 and the net profits were over \$300. Whereas, heretofore the grange has depended entirely upon donations, this year everything was purchased. The net profits were not quite so large as formerly, but much greater satisfaction was given.

The fall meeting of Monmouth County Pomona was held at Matawan. There are nine granges in the county and delegations were present from all of them. The fifth degree was given to a large class of candidates. Dr. Carris lectured upon "Teaching Agriculture in the Public School."

Saved \$1,000.—The Canesboro

grange, New York, has saved on eight carloads of supplies purchased this year through the state grange Purchasing Agency, just \$1,000. This is the saving compared with the prices the members would have been obliged to pay in the local market.

Rural Life Conference.—At a Rural Life Conference, held at Chatham, N. Y., October 9, Mrs. Rose Morgan, wife of Professor Morgan, of ways pure. Parents, according to spoke on the influence of music in Columbia University, New York City, of the kind of music that comes into the home, into their own hands and the rural home and declared her opinion

position to the introduction of ragtime music into the homes of the farmer particularly. It was demoralizing and its place should be filled with music of better sentiment which need not be less beautiful in melody. She is a student of the folk songs of many nations and believes that it is much better to let these be our guide as to sentiment, which is always pure. Parents, according to Mrs. Morgan, should take the matter of the kind of music that comes into the home, into their own hands and censor it sharply.

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Winston of the Prairie

By HAROLD BINDLOSS

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SYNOPSIS OF PREVIOUS CHAPTERS.

Farmer Winston, having failed as a homesteader, desperate, accepts a proposal to simulate Lance Courthorne, an adventurer. Courthorne and his pals are thus able to carry thru some smuggling operations. In the clash with the police Courthorne kills Trooper Shannon, leaving evidence pointing to Winston as the murderer. The scene shifts to Silverdale, founded by Colonel Barrington. The Colonel is worried over wheat operations and the coming advent of Lance Courthorne to Silverdale to claim his share of his father's estate. Maud Barrington, niece and ward of the Colonel, is told of Courthorne's past misdeeds. Winston, meanwhile has pushed on to Montana, being held and later released for lack of evidence by a government officer, who discloses the belief on the part of the police that Winston is the murderer of Trooper Shannon. Mail for Courthorne is opened in the letter, he meets and confers with a lawyer respecting Courthorne's inherited acres at Silverdale, and following out his role as simulator of Courthorne, he goes to Silverdale and is there received as graciously as could be expected. The present installment continues a rather penetrating conversation between him and Maud Barrington.

CHAPTER VIII.—(Concluded.)

Winston's eyes twinkled, though he understood the implication. "No," he said. "The wheat I handled was in 250-pound bags, and I occasionally grew somewhat tired of pitching them into a wagon, while my speculations usually consisted in committing it to the prairie soil, in the hope of reaping forty bushels to the acre and then endeavoring to be content with ten. It is conceivable that operations on the Winnipeg market are less laborious as well as more profitable, but I have had no opportunity of trying them."

Miss Barrington looked at him steadily, and Winston felt the blood surge to his forehead as he remembered having heard of a certain venture made by Courthorne which brought discredit on one or two men connected with the affairs of a grain elevator. It was evident that Miss Barrington had also heard of it, and no man cares to stand convicted of falsification in the eyes of a very pretty girl. Still, he roused himself with an effort.

"It is neither wise nor charitable to believe all one hears," he said.

The girl smiled a little, but the man still winced inwardly under her clear brown eyes, that would, he fancied, have been very scornful had they been less indifferent.

"I do not remember mentioning having heard anything," she said. "Were you not a trifle premature, in face of the proverb?"

Winston's face was a trifle grim, but he laughed. "I'm afraid I was; but I am warned," he said. "Excuses are, after all, not worth much, and when I make my defense it will be before a more merciful judge."

Maud Barrington's curiosity was piqued. Lance Courthorne, outcast and gambler, was at least a different stamp of man from the type she had been used to, and, being a woman, the romance that was interwoven with his somewhat iniquitous career was not without its attractions for her.

"I did not know that you included farming among your talents, and should have fancied you would have found it monotonous," she said.

"I did," and the provoking smile still flickered in Winston's eyes. "Are not all strictly virtuous occupations usually so?"

"It is probably a question of temperament. I have, of course, heard sardonic speeches of the kind before, and felt inclined to wonder whether those who made them were qualified to form an opinion."

Winston nodded, but there was a little ring in his voice. "Perhaps I laid myself open to the thrust; but have

you any right to assume I have never followed a commendable profession?"

No answer was immediately forthcoming, but Winston did wisely when, in place of waiting, he turned to Miss Barrington. He had left her niece irritated, but the trace of anger she felt was likely to enhance her interest. The meal, however, was a trial to him, for he had during eight long years lived for the most part apart from all his kind, a lonely toiler, and now was constrained to personate a man known to be almost dangerously skillful with his tongue. At first sight the task appeared almost insuperably difficult, but Winston was a clever man, and felt all the thrill of one playing a risky game just then. Perhaps it was due to excitement that a readiness he had never fancied himself capable of came to him in his need, and, when at last the ladies rose, he felt that he had not slipped perilously. Still, he found how dry his lips had grown when somebody poured him a glass of wine. Then he became sensible that Colonel Barrington, who had apparently been delivering a lengthy monologue, was addressing him.

"The outlook is sufficient to cause us some anxiety," he said. "We are holding large stocks, and I can see no prospect of anything but a steady fall in wheat. It is, however, presumably a little too soon to ask your opinion."

"Well," said Winston, "while I am prepared to act upon it, I would recommend it to others with some diffidence. No money can be made at present by farming, but I see no reason why we should not endeavor to cut our losses by selling forward down. If caught by a sudden rally, we could fall back on the grain we hold."

There was a sudden silence, until Dane said softly, "That is exactly what one of the cleverest brokers in Winnipeg recommended."

"I think," said Colonel Barrington, "you heard my answer. I am inclined to fancy that such a measure would not be advisable or fitting, Mr. Courthorne. You, however, presumably know very little about the practical aspect of the wheat question."

Winston smiled. "On the contrary, I know a great deal."

"You do?" said Barrington sharply, and while a blunderer would have endeavored to qualify his statement, Winston stood by it.

"You are evidently not aware, sir, that I have tried my hand at farming, though not very successfully."

"That at least," said Barrington dryly, as he rose, "is quite creditable."

When they went into the smaller room, Winston crossed over to where Maud Barrington sat alone, and looked down upon her gravely. "One discovers that frankness is usually best," he said. "Now, I would not like to feel that you had determined to be unfriendly with me."

Maud Barrington fixed a pair of clear brown eyes upon his face, and the faintest trace of astonishment crept into them. She was a woman with high principles, but neither a fool nor a prude, and she saw no sign of dissolute living there. The man's gaze was curiously steady, his skin clear and brown, and his sinewy form suggested a capacity for, and she almost fancied an acquaintance with, physical toil. Yet he had already denied the truth to her.

Winston, on his part, saw a very fair

face with wholesome pride in it, and felt that the eyes which were coldly contemptuous now could, if there was a warrant for it, grow very gentle.

"Would it be of any moment if I were?" she said.

"Yes," said Winston quietly. "There are two people here it is desirable for me to stand well with, and the first of them, your aunt, has, I fancy, already decided to give me a fair trial. She told me it was for my mother's sake. Now, I can deal with your uncle, I think."

The girl smiled a little. "Are you quite sure? Everybody does not find it easy to get on with Colonel Barrington. His code is somewhat Draconic, and he is rather determined in his ways."

Winston nodded. "He is a man, and I hope to convince him I have at least a right to toleration. That leaves only you. The rest don't count. They will come round by and by, you see."

The little forceful gesture, with which he concluded, pleased Maud Barrington. It was free from vanity, but conveyed an assurance that he knew his own value.

"No friendship that is lightly given is worth very much," she said. "I could decide better in another six months. Now it is perhaps fortunate that Colonel Barrington is waiting for us to make up his four at whist."

Winston allowed a faint gesture of dismay to escape him. "Must I play?"

"Yes," said the girl, smiling. "Whist is my uncle's hobby and he is enthusiastic over a clever game."

Winston groaned inwardly. "And I am a fool at whist."

"Then it was poker you played?" and again a faint trace of anger crept into the girl's eyes.

Winston shook his head. "No," he said. "I had few opportunities of indulging in expensive luxuries."

"I think we had better take our places," said Maud Barrington, with unveiled contempt.

Winston's forehead grew a trifle hot, and when he sat down Barrington glanced at him. "I should explain that we never allow stakes of any kind at Silverdale," he said. "Some of the lads sent out to me have been a trifle extravagant in the old country."

He dealt out the cards, but a trace of bewildered irritation crept into his eyes as the game proceeded, and once or twice he appeared to check an exclamation of astonishment, while at last he glanced reproachfully at Winston.

"My dear sir! Still, you have ridden a long way," he said, laying his finger on asking.

Winston laughed to hide his dismay. "I am sorry, sir. It was scarcely fair to my partner. You would, however, have beaten us, any way."

Barrington gravely gathered up the cards. "We will," he said. "Have some music. I do not play poker."

Then, for the first time, Winston lost his head in his anger. "Nor do I, sir."

Barrington only looked at him, but the farmer felt as though somebody had struck him in the face, and, as soon as he conveniently could, bade Miss Barrington good night.

"But we expected you would stay here a day or two. Your place is not ready," she said.

Winston smiled at her. "I think I am wise. I must feel my way."

Miss Barrington was won, and, making no further protest, signed to Dane. "You will take Mr. Courthorne home with you," she said. "I would have kept him here, but he is evidently anxious to talk over affairs with some one more of his age than my brother is."

Dane appeared quite willing, and, as

hour later, Winston sat, cigar in hand, in a room of his outlying farm. It was furnished simply, but there were signs of taste, and the farmer who occupied it had already formed a good opinion of the man whose knowledge of his own profession astonished him.

"So you are actually going to sell wheat in face of the Colonel's views?" he said.

"Of course!" said Winston simply. "I don't like unpleasantness, but I can allow no man to dictate my affairs to me."

Dane grinned. "Well," he said, "the Colonel can be nasty, and he has no great reason for being fond of you already."

"No?" said Winston. "Now, of course, my accession will make a difference at Silverdale, but I would consider it a friendly act if you will let me know the views of the colony."

Dane looked thoughtful. "The trouble is that your taking up the land leaves less for Maud Barrington than there would have been. Barrington, who is fond of the girl, was trustee for the property, and after your estrangement from your father—everybody expected she would get it all."

"So I have deprived Miss Barrington of part of her income?"

"Of course," said Dane. "Didn't you know?"

Winston found it difficult to answer. "I never quite realized it before. Are there more accounts against me?"

"That," said Dane slowly, "is rather a faeer. We are all more or less friends of the dominant family, you see."

Winston laid down his cigar and stood up. "Now," he said, "I generally talk straight, and you have held out a hand to me. Can you believe in the apparent improbability of such a man as I am in the opinion of the folks at Silverdale getting tired of a wasted life and trying to walk straight again? I want your answer, yes, or no, before I head across the prairie for my own place."

"Sit down," said Dane with a little smile. "Do you think I would have brought you here if I hadn't believed it? And, if I have my way, the first man who flings a stone will be sorry for it. Still, I don't think any of them will—or could afford it. If we had all been saints, some of us would never have come out from the old country."

He stopped and poured out two glasses of wine. "It's a long while since I've talked so much," he said. "Here's to our better acquaintance, Courthorne."

After that they talked wheat-growing and horses, and when his guest retired Dane still sat smoking thoughtfully beside the stove. "We want a man with nerve and brains," he said. "I fancy the one who has been sent us will make a difference at Silverdale."

It was about the same time when Colonel Barrington stood talking with his niece and sister in Silverdale Grange. "And the man threw that trick away, when it was absolutely clear who had the ace—and wished me to believe that he forgot!" he said.

His face was flushed with indignation, but Miss Barrington smiled at her niece. "What is your opinion, Maud?"

The girl moved one white shoulder with a little gesture of disdain. "Can you ask—after that! Besides, he twice willfully perverted facts while he talked to me, though it was not in the least necessary."

Miss Barrington looked thoughtful. "And yet, because I was watching him, I do not think he plays cards well."

"But he was a professional gambler," said the girl.

The elder lady shook her head. "So we heard," she said. "My dear, give him a little time. I have seen many men and women—and can't help a fancy that there is good in him."

"Can the leopard change his spots?" asked Colonel Barrington, with a grim smile.

The little white-haired lady glanced at him as she said quietly, "When the wicked man—"

CHAPTER IX.

Courthorne Disappears.

Supper was cooking when Lance Courthorne sat beside the glowing stove in the comfortless general room of a little wooden hotel in a desolate settlement of Montana. He had a good many acquaintances in the straggling town, where he now and then ran a faro game, though it was some months since he had last been there, and he had ridden a long way to reach it that day. He was feeling comfortably tired after the exposure to the bitter frost, and blinked drowsily at the young rancher who sat opposite him across the stove. The latter, who had come out some years earlier from the old country, was then reading a somewhat ancient English newspaper.

"What has been going on here lately?" asked Courthorne.

The other man laughed. "Does anything ever happen in this place? One would be almost thankful if a cyclone or waterspout came along, if it were only to give the boys something to talk about. Still, one of the girls here is going to get married. I'm not sure old man Clouston finds it helps his trade quite as much as he fancied it would when he fired his Chinamen and brought good-looking waitresses in. This is the third of them who has married one of the boys and left him."

"What could he expect?" and Courthorne yawned. "Who's the man, and have I seen the girl?"

"I don't think you have. So far as I remember, she came since you were here last, and that must be quite a while ago. Nobody seems to know where Clouston got her from, and she's by no means communicative about her antecedents; but she's pretty enough for any man, and Potter is greatly stuck on her. He sold out a week or two ago—got quite a pile for the ranch, and I understand he's going back to the old country. Any way, the girl has a catch. Potter's a straight man, and most of us like him."

He turned over his paper with a little laugh. "It doesn't interest you? Well, if you had lived out at Willow six years as I have you'd be glad of anything to talk about, if it was only the affairs of one of Clouston's waitresses."

Courthorne yawned again openly and took from his pocket a letter he had received the day before at another little town to which, in accordance with directions given, it had been forwarded him. It was from one of his whisky-running comrades and had somewhat puzzled him.

"There's about one hundred dollars due you, and we're willing to pay up," it ran. "Still, now we hear you're going back east to the Silverdale settlement it's quite likely you won't want them as much as the rest of us do. It's supposed to be quite a big farm you have come into."

Courthorne was a little troubled, as well as perplexed. He had certainly not gone to Silverdale and had no notion of doing so, though he had distant relatives there, while, so far as he knew, nobody had left him a farm of any kind. He had promised the whisky runner a guide on the night of Trooper Shannon's death, and as it was dark when, muffled in Winston's furs, he met

the men—who were, as it happened, for the most part new adherents, it seemed probable that they had not recognized him or had not had any reason to believe it was not Winston himself who was responsible for the trooper's death. It was not a very unusual thing for one of the smaller farmers to take a part in a smuggling venture now and then. Still, the letter left him with an unpleasant uncertainty.

By and by his companion looked up from his paper again.

"You came from my part of the old country, I think?" he said. "I see a man of your name has died there lately, and he seems to have left a good deal of property. Here's a list of the bequests."

He stopped a moment, and with another glance at it handed Courthorne the paper. "I notice your own name among them, and it's not a common one."

Courthorne stretched out his hand for the paper, and his face became intent as he read: "It is with regret many of our readers will hear of the death of Mr. Geoffrey Courthorne, well known in this vicinity as a politician with Imperialistic views and a benefactor of charitable schemes. Among the bequests are . . . and one of the farms in the Silverdale colony he established in Western Canada to Lance Courthorne."

He laid down the paper and sat rigidly for a minute or two, while his companion glanced at him curiously.

"Then," said the latter, "it's you!"

"It is," said Courthorne dryly. "I'm much obliged to you for showing me the thing, but I'd be still more obliged if you wouldn't worry me with any questions just now."

His companion made a little gesture of comprehension as he moved away, and Courthorne leaned back in his chair with his eyes half-closed. He could now understand his whisky-smuggling comrade's letter, for it was evident that Winston was going to Silverdale. Indeed, Courthorne could not see what other course was open to the rancher, if he wished to preserve his safety. Still, Courthorne was aware that farming, as carried on at Silverdale, was singularly unprofitable, and he had a somewhat curious confidence in the honesty of the man he had deceived. Winston, he decided, no doubt believed that he was drowned the night Trooper Shannon died, and had been traced as Courthorne by some Winnipeg lawyers acting for the executors.

Then Clouston came in to announce that supper was ready, and Courthorne took his place among the rest. The men were storekeepers of the settlement, though there were among them frost-bronzed ranchers and cattle-bosses, who had come in for provisions or their mail, and some of them commenced rallying one of their comrades who sat near the head of the table on his approaching wedding. The latter bore it good-humoredly, and made a sign of recognition when Courthorne glanced at him. He was a big man, with pleasant blue eyes and a genial, weather-darkened face, though he was known as a daring rider and successful breaker of vicious horses.

Courthorne sat at the bottom of the table, at some distance from him, while by and by the man at his side laughed when a girl with a tray stopped behind them. She was a very pretty girl with big black eyes, in which, however, there lurked a somewhat curious gravity.

"Fresh pork or steak? Fried potatoes," she said.

(To be continued.)

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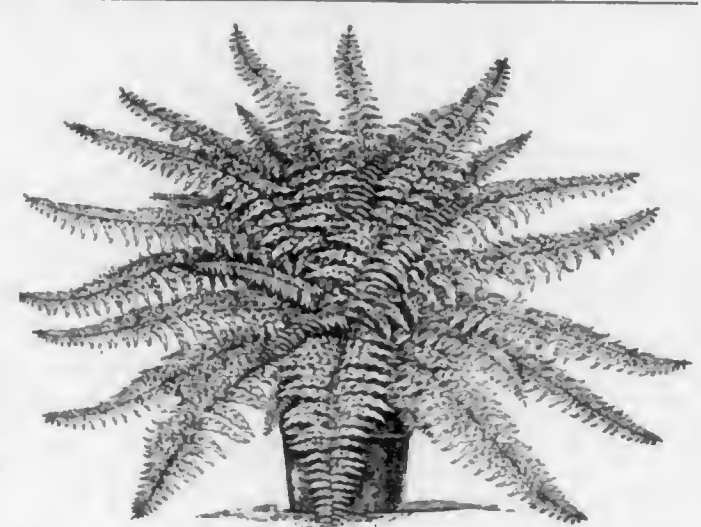
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Markets

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Butter.—Western creamery, 30c; extras, 32c; old, 31c; to second, 29c; to 20c; special prints, 30c; 42c; new-laid prints, 30c.
Eggs.—New York full cream, 18c; 17c; do, fair to good, 16c.
Lard.—Lard, 40c; 42c; do, extras, 35c. Current receipts at \$9.00 per standard case.

Poultry.—Poultry, 13c; 15c; old roosters, 11c; 12c; pigeons, 18c; 20c pair.
Dressed poultry.—Western fowls, 15c; 19c; roosters, 12c; chickens, 12c; 19c; squabs, \$2.00; 4.85 doz.

Vegetables.—White potatoes, Jersey, new, 40c; 50c; 60c; 70c; 80c; 90c; 100c; 110c; 120c; 130c; 140c; 150c; 160c; 170c; 180c; 190c; 200c; 210c; 220c; 230c; 240c; 250c; 260c; 270c; 280c; 290c; 300c; 310c; 320c; 330c; 340c; 350c; 360c; 370c; 380c; 390c; 400c; 410c; 420c; 430c; 440c; 450c; 460c; 470c; 480c; 490c; 500c; 510c; 520c; 530c; 540c; 550c; 560c; 570c; 580c; 590c; 600c; 610c; 620c; 630c; 640c; 650c; 660c; 670c; 680c; 690c; 700c; 710c; 720c; 730c; 740c; 750c; 760c; 770c; 780c; 790c; 800c; 810c; 820c; 830c; 840c; 850c; 860c; 870c; 880c; 890c; 900c; 910c; 920c; 930c; 940c; 950c; 960c; 970c; 980c; 990c; 1000c; 1010c; 1020c; 1030c; 1040c; 1050c; 1060c; 1070c; 1080c; 1090c; 1100c; 1110c; 1120c; 1130c; 1140c; 1150c; 1160c; 1170c; 1180c; 1190c; 1200c; 1210c; 1220c; 1230c; 1240c; 1250c; 1260c; 1270c; 1280c; 1290c; 1300c; 1310c; 1320c; 1330c; 1340c; 1350c; 1360c; 1370c; 1380c; 1390c; 1400c; 1410c; 1420c; 1430c; 1440c; 1450c; 1460c; 1470c; 1480c; 1490c; 1500c; 1510c; 1520c; 1530c; 1540c; 1550c; 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"I had two lots of hogs. To one lot I fed 'Sal-Vet' and the other lot I fed no 'Sal-Vet'. These hogs did not fatten nearly so well, and at killing time we found many worms in them, while those that had the 'Sal-Vet' had no worms. I have good faith in my hogs. They look well, but I also have faith enough in 'Sal-Vet' from my experience to believe that it will make them look better."—
 Elwood Crossley, Rte. 1, Bloomshury, Pa.
 "Am highly pleased with the results from feeding 'Sal-Vet'. My pigs, horses, and cows have better appetites, and show much more life and spirit than before, and are better in every way since feeding 'Sal-Vet'."—Jacob H. Krieder, Rte. 1, Temple, Pa.
 "I feed 'Sal-Vet' regularly to my hogs and find it all that you claim. It keeps them in as thrifty a condition as it speaks for itself to all those who see them."—Richard A. Gailher, Jr., Silver Spring, Md.
 "I am very much pleased with the results from feeding 'Sal-Vet'. I have had no sick hogs, while my next neighbor has lost over thirty from cholera. I surely will never be without 'Sal-Vet' on my place again."—Roy C. Truller, Lincoln City, Del.

Protect Your Hogs From Disease!



The Deadly Swine Plague Now Sweeping the Country is Wiping Out Entire Herds in a Few Days

**I'll Help You Prevent Your Losses
 I'll Get Rid of the Worms in Your Stock
 I'll Prove It Sixty Days Before You Pay**

NOW is The Time for you to fight the diseases that are robbing farmers and stockmen of millions of dollars.

NOW is The Time for you to put every animal on your place in a strong healthy condition—especially your hogs and little pigs.

NOW is The Time for you to get rid of the deadly stomach and free intestinal worms—the pests that sap the strength and vitality of your farm animals, making them easy victims of cholera and other diseases.

Read these letters. They prove that "a stitch in time saves nine."

"A lot of hogs died in this county from swine plague or cholera. Some of them were within three miles of me, but I have been feeding Sal-Vet, and have not lost a single hog. They are all doing well, eat all I give them, and have good appetite for more."—D. A. ROSS, Kingman, Kans., Breeder of Pure Bred Poland Chinas.

"As the hog cholera is prevalent all through this section, I have been feeding Sal-Vet to my hogs. Since then, I never saw them in better condition in spite of the fact that all around me the cholera is carrying them off by the hundreds."—W. J. BROOKS, Diggs, Va.

Hogs free from worms are best protected against Cholera and Swine Plague and most apt to recover when attacked. Every authority on the breeding and feeding of swine will tell you the same thing. Read the warning by the Editor of the Iowa Homestead in the next column. There is the whole truth in a nutshell. **Worms are your greatest enemies**—worse than cholera—they are everlastingly stealing your stock profits—weakening your farm animals and keeping them from putting on flesh. And worst of all in times like this when cholera breaks out in your neighborhood, you may lose hundreds of dollars in a few days just because your animals have been robbed of their fighting strength and vitality by worms.

**The Great
 WORM
 Destroyer**



**The Great
 LIVESTOCK
 Conditioner**

will drive out these pests quick. I'll prove it before you pay—I'll prove it or no pay. I'll prove it on your own farm with the money in your pocket. Worms can't live where Sal-Vet is used. The dangers of cholera and swine plague are many times less where Sal-Vet is fed. It is the best kind of cholera insurance you can find. It will put every animal on your place in a thrifty condition. They will gain faster—grow into money quicker and make you more profit. Read my offer and personal guarantee. Then send me the coupon below.

**I'll Feed Your Stock Sixty Days
 Before You Pay**



Mr. Sidney R. Feil is a Registered Pharmacist under Ohio State Laws and Graduate of the National Institute of Pharmacy.

If you will fill out the coupon below—tell me how many head of stock you have—mail it to me, I will ship you enough Sal-Vet to last them 60 days. You simply pay the small freight charge when it arrives. Let your stock run to it freely according to directions and at the end of 60 days, report results. If Sal-Vet does not do what I claim, I'll cancel the charge. You won't owe me a cent.

Don't Send Any Money—Just Send the Coupon

Read the letters in the next column. They prove that Sal-Vet will do just what I claim. Be on the safe side. Protect your hogs against disease now. Don't put it off a day longer. Get rid of the worms in all your stock now. Sal-Vet will do it quickly and easily. You can see the results with your own eyes before you pay me a penny.

**Sidney R. Feil, Pres., THE S. R. FEIL COMPANY, Mfg. Chemists
 Dept. PNF - Cleveland, Ohio**

**The Editor of the Iowa Homestead
 Says About Cholera Plague:**

We do not desire to place ourselves on record as believing that hogs free from internal parasites cannot take any of these deadly diseases, but on the other hand, we have no hesitation in saying that nineteenths of the trouble that occurs among hogs is due first to a weakening of the constitutional powers on account of the ravages of worms. Where this is the seat of trouble no system of inoculation or vaccination will for a single day arrest the coming of this profit-destroying scourge, and the lesson to be learned from this is that more attention must be given to the problem of destroying worms while pigs are young if we ever hope to head off these heavy losses or popularize the efficacy of the serum treatment.

Hogs are in the very necessity of the case kept under artificial conditions at the present time. Generally speaking they are confined in relatively small quarters and this is most favorable for the development of parasitic troubles. This being the case we believe that there is not a single set of conditions, under which hogs are kept, found in the grain belt that will justify swine breeders in their failure to administer worm remedies regularly beginning just when the pigs are old enough to take feed from the trough. If a beginning is made then and is kept up at intervals of ten days or two weeks until the pigs are half grown the probabilities are that there will be no more trouble from that source and if worms are eliminated we have no hesitation in saying that nineteenths of the thumping will be stopped, fever will be almost wholly checked and the way will be paved in an ideal fashion for the so-called serum to accomplish what scientists have proven can be accomplished.

Read What A. J. Lovejoy, Secretary Berkshire Breeders' Association Says About Sal-Vet

"Please send us two (2) more barrels of SAL-VET at once. This is the best preparation we have ever used. We give all our sheep, horses and over one hundred hogs free access to it. It is all you claim."

A. J. Lovejoy, Roscoe, Ill.

"Hog cholera has been prevalent here this fall. My hogs have so far escaped and I am crediting this fact to 'Sal-Vet'."—W. B. Ellsworth, Brookwood Farm, Ottawa, Ill.

"While I cannot state positively 'Sal-Vet' kept my hogs from having Cholera, I had no such sickness while my neighbors almost without exception lost hogs from cholera. I certainly have great faith in 'Sal-Vet' and it is a lot more than you claim for it."

F. C. Conover, Chrisman, Ill.

I write to say that I have been a free user of Sal-Vet ever since its introduction and find that it is the most perfect worm exterminator on the market today. It will positively do all that you claim for it. There is nothing within my knowledge as good and reliable or as cheap."—B. C. Stone, Feoria, Ill., Sec. American Hampshire Swine Record Ass., Pres. Illinois Swine Breeders' Association.

My herd of pure bred Poland China hogs were in decidedly bad condition, and I was very much afraid of Cholera, having just returned with them from our state fair, where this disease often crops out. Since feeding Sal-Vet, they are sleek, fat and in absolutely perfect health too.

G. M. Cunniff, Monticello, Mo.

PRICES: 40 lbs., \$2.25; 100 lbs., \$5.00; 200 lbs., \$9.00; 300 lbs., \$13.00; 500 lbs., \$21.12. Special discount for large quantities.

No orders filled for less than 40 lbs. on 60 day trial offer. Never sold in bulk; only in Trade-Marked "Sal-Vet" Packages. 60 day trial shipments are based on one lb. of Sal-Vet for each sheep or hog and four lbs. for each horse or head of cattle as near as we can come without breaking regular packages.

PENNSYLVANIA FARMER

AGRICULTURE
THE KEYSTONE OF
NATIONAL PROSPERITY

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2 YEARS FOR \$1.00.

Farm Counselor Department



R. P. KESTER
Counselor on Soils to the State Department of Agriculture.
Through this department Mr. Kester will discuss queries from Pennsylvania Farmers on soils, field crops and general farm practice. Address all queries to Pennsylvania Farmer, Philadelphia, Pa.

Thanksgiving.

It was in perfect keeping with the pious practices of the Pilgrim fathers that they set aside a day in the year 1681 for the purpose of rendering special thanksgiving and praise. After their first harvest had been gathered and they were settled in their new homes in a new land, is it any wonder that, with their religious natures, they felt they must, unitedly and publicly, "Praise God from whom all blessings flow?" altho it is probable that in every home daily thanks had been rendered for every meal and for every sunrise.

Fasting and prayer was the order of exercises with those stern Puritans, contrasting sharply with the feasting and play of the present day. Which is the more consistent? Each may answer according to his light. They considered their blessings as special dispensations of Divine Goodness. Now, men say they are natural results following specific causes. Whichever is right, the Pilgrim Father's spirit of thankfulness and appreciation is in place.

If a modern family were to awaken on Thanksgiving morning and find itself in the same environment and possessing only what a Pilgrim family possessed, I wonder how fervent the thanksgiving praise would be. In these three hundred years of wonderful development have we not lost to some extent the ability to appreciate? We take every blessing, every success, as a matter of course, expressing our feelings only when we are defeated or disappointed, forgetting that

"Sometimes the thing our life misses, Helps more than the things which it gets."

We should strive to retain the ability to appreciate the good, the beautiful, the true things of life. The normal child is full of appreciation. Its glad-some laughter, its dancing and hand-clapping is a continual song of thanksgiving and praise. But when the stern realities of life appear, too often this trait gives way to an over-serious, strenuous effort to succeed in which the other side of our nature dwindles and dies and the individual ends his days a morose pessimist.

One day in the year is not enough in which to feel thankfulness and appreciation. They who would limit it to one day cannot properly observe that day. Every sunrise and every sunset; every budding tree and tinted forest; every field of waving grain or beautiful landscape, every experience in life, each and all have power to bring gladness and restore harmony to a troubled life, providing that life has taken time daily to enjoy and note the day's blessings. We cannot do it all in one day in the year. We cannot, in that way, do justice either to ourselves or to the Creator.

I do not know of any gathering or any service that is a more consistent expression of the Thanksgiving spirit, or any more appropriate observance of the day than a family gathering at the old farm home. They who are privileged to meet there in an unbroken circle

have an unmixt blessing. It is no wonder this has become the most popular way of spending Thanksgiving day, and happy that individual who is one of the number.

But it is more difficult now than formerly. Families are often scattered far and wide, making it impossible for all to get together. I think it must have been on a lonely Thanksgiving day that the old father rendered the following



FIG. 1. ATTRACTIVE AND SUBSTANTIAL RAIL FENCE.

through the aid of James Whitcomb Riley:

"The old farm home is mother's yet and mine,
And filled it is with plenty and to spare—
But we are lonely here in life's decline,
The fortune smiles around us everywhere;

We look across the gold
Of the harvest as of old—
The corn, the fragrant clover, and the hay;
But most we turn our gaze,
As with eyes of other days,
To the orchard where the children used to play."

In such instances, and there are many, let amends be made so far as possible, by letters. It is a means not



FIG. 2. GOOD PASTURE FENCE. BOARD FENCE WITH CAP.

only of expressing our own feelings of thanksgiving and appreciation and praise, but will brighten the day and ease the load for those "back home."—R. P. K.

THE FARMERS' INSTITUTE.

There seems to be, in some quarters, a tendency to criticize adversely the farmers' institute as at present conducted, because apparent results are not adequate to the money and effort expended, and because other agencies for spreading information among farmers are considered superior. It is alleged that the attendance at the meetings is slim, the interest slimmer, and the harvest practically nil. It is argued that the need for institute work has passed,

(if it ever existed) and that the avalanche of information poured out by the bulletins and by the agricultural press is amply sufficient for the farmers' needs, and, it may be, even more than he deserves. There are also many kind people who do not issue bulletins or publish farm papers; neither do they assist in the institutes; but one and all, they know just what the farmer must do that he may be "elevated," and the

The institute speaker draws his store from the publications available. In the light of his own experience he interprets what he reads so that those whose opportunities have been narrower may understand; and if he does his part well, if he proves a true "bringer of good tidings," many of his hearers will go out with the desire to know more of these things. And that is much. There is a wealth of agricultural knowledge hidden in bulletins, in reports, in farm papers; but, too often, it remains inert because the means to make it available to the man who holds the plow are not at hand. If the speakers at the institute do no more than to unlock the store, and awaken in the breast of their hearers the desire to know, I believe they amply justify their existence and their work.

It is not for a moment pretended that the institute work is beyond criticism. It would be a sad thing could that be honestly said, because all progress is based on dissatisfaction. The man who is satisfied with his achievement and not very much dissatisfied, is incapable of progress or further helpfulness. Every step in advance that has ever been taken came as the result of effort for something better. Progress is ever upward, and the upward way is one of striving. Methods will change and men will change, but principles will remain. All that is good in the institute system should remain; what has been found useless and undesirable should give place to newer developments and expedients.

A young man complained to me that he had not received the training at college that he had a right to expect; intimating that the college, one of the best in the state, was at fault. "They were too lenient," he told me. "They should have compelled us to make a better use of our time during those four years, and the result would be more like what a college course ought to mean." I was not so certain. The young man had been one of the oldest in his class, graduating at the age of 27, yet he could not profit by the wealth of opportunity before him because no master but his own will held the lash over him. The young graduate's plaint was a revelation of self that explained much more than he intended. Perhaps some who find no good in institutes are in like state with him. Of my neighbors I know that those who read most, who send most frequently for bulletins and reports of interest to them, are the most faithful attendants at institute sessions.—Howard Mitman, Northampton Co., Pa.

FARM FENCES.

Whether to prevent trespassing, to confine farm stock or to define a boundary line, the farm fence needs not only to meet the needs of its specific purpose, but it must be durable and no more costly than its durability will require.

As a general purpose farm fence, nothing surpasses the post and rail fence. It is safe as a stock fence, substantial and slightly as a boundary, and where the posts and rails can be procured at a reasonable price or from wood grown upon the farm, it will prove as economical as any fence that can be built. It is advisable to treat the bases of the posts with tar oil or with corrosive sublimate where the fence line is to run thru poorly-drained ground. Four or five-rail posts should be set deeper than three rail posts. Figure No. 1 shows a post and rail fence as a roadside boundary. Around meadows where banks give a higher fence site, the three-rail fence is sufficient.

It is one thing to read a printed page; it is a very different thing to grasp the meaning there. The speaker commands a score of avenues to your consciousness: the type but one. I would not, however, plead the cause of the speaker at the expense of the printed message. Neither can do the best work alone; but, shoulder to shoulder, supplementing one another, these two agencies may move much.

Another fence useful along farm lanes, roadsides or near buildings, is the post and board fence. The posts in Figure No. 2 are eight feet apart and the fence is five feet high. This fence is not as proof against trespassing, however, as one with an upper barbed wire. Midway between the posts of this fence the boards are braced by vertical strips which prevent the cross-boards from springing. This fence is useful about lots where mares, colts and calves are confined. Such a fence should be painted.

Figure 3 shows the use of a woven wire fence about a pasture. Because of the close mesh near the lower part, it

inches thru at the small end if round, and 3/4 inches if quartered.

Figure No. 4 shows a boundary fence with wire stretched upon tubular iron posts—a durable and slightly boundary.—M. Roberts Conover, Monmouth Co., N. J.

PRESERVATION TREATMENT OF FENCE POSTS.

The treated post is most economical. Experiments have shown that creosote, costing ten cents or less per post, will penetrate peeled, seasoned jack pine, poplar, cottonwood, willow, red oak, or ash posts from a quarter to a half-inch



FIG. 3. ANOTHER GOOD PASTURE FENCE. WOVEN WIRE WITH CAP.

confines hogs, sheep and poultry. The posts are set eight feet apart. Such a fence is safe, slightly and simple in construction. A number of fences observed, however, were injured and bent by persons climbing them. A barbed wire along the top would enhance its value as a boundary fence, altho not advisable for pastures.

In all wire fencing, the strain on corner posts should be sustained by braces either above or under ground. The underground brace is in some cases placed flat in a trench against the post. Three such braces, one on each side of

deep. Maple, basswood, birch, spruce, and balsam should be given two coats of hot oil with a brush. This will increase their durability at a very low cost. Little more can be done with them even by more elaborate and very much more expensive methods.

Cedar, white oak, and tamarack can be treated quite readily, but when treated they are no better than the cheaper woods, so their use for this purpose is unwarranted. The posts for this work should be cut in the spring, when they can be easily and thoroughly peeled, for even a thin inner layer of bark is a



FIG. 4. BOUNDARY FENCE OF WIRE AND GAS-PIPE STAKES. CHEAP BUT NOT SUBSTANTIAL.

the post in the direct line of strain, and one bisecting the angle formed by the other two, insure a solid brace. The mode of bracing above ground by slanting braces against the post is known to all. The higher the fence the greater the tension of the stretched wire, and the deeper should the posts be set.

The illustration shows a woven wire fence with a top strip, a safe mode of confinement where jumping horses are pastured. For wire fences with wooden posts, osage orange, black locust, Russian mulberry, catalpa, and green ash are durable in the order given. First-class posts should be 7 feet long, 4

WOODCHUCK REMEDIES.

The woodchuck, or "ground hog," is

so destructive to gardens in some sections that a few remedial measures may be of interest. White muslin strips may be tied to the peavine supports about a foot above the ground at intervals of about a foot in the row to keep the animal away. Cotton or oakum may be wrapped around a stone, soaked in carbon bisulphid, and the mass rolled into the hole as far as possible. In order that the fumes may have the fullest possible effect, close the hole as tightly as possible. Blasting powder and a long fuse are sometimes used and so is the steel trap.—F. L. Washburn.

WHEAT FARMERS NEED.

We are hearing much these days about what the farmers most need, and how to supply it. We have the farm counselors and the county demonstrators, etc. Now, these ideas and proposals are good so far as they go. But they are built on the theory that the only thing the farmer needs is more knowledge in the production of crops. But is this all he needs? A great proportion of the farmers who have been forced to abandon their holdings in this state have been compelled to do so, not because of lack of knowledge of production methods and fairly progressive practice, but because of high taxes, high interest rates and no available credits and no money to do business with.

I know of a number of farmers who were compelled to give up their farms and leave the state because of these conditions. In the West they have made good. What we need here more than anything else is a set of tax laws that will place as high a tax on the rich man's dollar as on the poor man's land. Farm demonstrators and counselors will not help this condition. I believe that I am safe in saying that two-thirds of the farmers in Pennsylvania are now paying a heavy tax on mortgage property and interest on the mortgage as well. It is this condition that drives the farmer to a job in the city and makes abandoned farms.—Joseph Fischer, Tioga Co., Pa.

PROTECT THE TOADS.

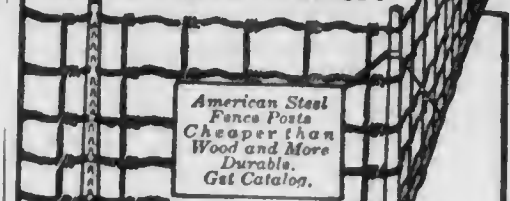
Few well-meaning creatures have been more thoroughly misunderstood than the homely, meditative and retiring toad. Formerly the toad was considered a venomous reptile, but in our day its habits have been more carefully observed and its great value to the fruit grower and gardener has been fully established on account of its propensity for destroying insects. We should, therefore, cultivate the friendship and assistance of the insectivorous reptiles, including the striped snake, as well as that of birds.

Every tidy housekeeper detests the cockroach and other insects. Two or three domesticated toads would keep the coast clear of these and would be found more generally desirable than a cat, as they are wholly free from trespassing on the rights of man as does the cat. The toad is possessed of a timid and retiring nature, loving dark corners and shady places, but under kind treatment becoming quite tame.

Many instances might be cited of pet toads remaining several years in a family and doing most valuable service with no other compensation than that of immunity from persecution. In Europe toads are carried to the cities to market and are purchased by the horticulturists, who by their aid are enabled to keep in check the multiplication of insect tribes which prey upon their fruits and flowers.—Dr. Leonard Keene Hirschberg, Maryland.

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Horticulture

FALL-BEARING STRAWBERRIES.

Who would have thought five years ago that it would be possible for us to produce strawberries from May until November? It is now not only possible but what is more, it is profitable.

Plant breeders have originated twenty or more distinct varieties of fall-bearing or ever-bearing strawberries. Many of these varieties are absolutely worthless as far as commercial possibilities are concerned. One of the most widely distributed varieties of the worthless class is the Pan-American, one of the first ever-bearing type of strawberries originated. This variety has been of inestimable value to plant breeders, but it is a pity that it was ever placed on the market, for it is so inferior that it has hindered the distribution of some of the later varieties that have true commercial possibilities.

The three varieties that seem at present to possess the greatest possibilities are the Progressive, the Americus, and Superb. The Progressive, with us, is too much like the native wild strawberry to be of much value commercially. The Americus has won considerable favor among growers because of its habit of producing fruit on new plants soon after they have struck root. The berries of this variety, however, are rather small. One of the greatest believers in Americus is J. L. Farmer, of Oswego County, N. Y. Mr. Farmer, however, was unfortunate in that he got a mixed lot of Superb plants when he started with the fall-bearing varieties. In a recent letter he says: "The Superb has done better with me this year than ever before, coming next to Americus." Hence, combining this statement of one of the largest growers of fall-bearing strawberries in the United States, with the opinion of such well-known growers as Allen, Perry and Cooper, all of whom give the Superb first place, I believe the Superb has the greatest commercial possibilities of any variety that has as yet left the hands of the breeders.

We have now been growing the Superb strawberry for three years. It is a very prolific plant former, quite resistant to drouth, and will make a fair mat on ground that is too high for the Gandy. It is extremely fruitful, and when grown in the matted row system will give as good a spring crop as any variety of which I know. We had them growing along side the Gandy and Chesapeake varieties this year and they produced about twice as many as did either of these two standard varieties. A matted row 265 feet long produced eight crates of berries. In the matted row, however, they did not bear very plentifully later in the summer, because the plants became too crowded. The parent plants of our new bed (almost an acre) set this spring, have been fruiting quite heavily. We will secure enough for the berries from the bed this year to pay for establishing it. They continue to mature the fruit, already set, long after frost. There were still a few ripe strawberries clinging to the vines last year on Thanksgiving Day. The fruit of the Superb strawberry is of a regular oval shape, large and glossy. The caps are large and showy and the seed of a bright yellow color. These qualities, together with the firmness of the flesh, make them a very desirable commercial variety. Last spring we shipped them to Boston along with the Gandy. The flavor is fully as good as the Uncle Jim or many of the softer varieties offered on the merits of their flavor alone.

Pennsylvania Farmer

November 22, 1913.

Judging from the way the parent plants, and the plants from which all runners were kept clipped, have fruited, the hill system of culture will be the most profitable for growing fall-bearing varieties. When grown by this system plants are set 18 inches apart in rows eighteen inches apart with every fifth row omitted so as to leave an alley-way for the pickers. If one has plenty of ground and does not care to cultivate

With the spring-bearing varieties this has been unprofitable because they occupied considerable space and only produced berries for a short period; but if a berry such as the Superb can be made to fruit under glass, large profitable marketings of strawberries can be made thruout the winter. We are at present planning to try out this possibility of the Superb during the coming winter. It will take several years for growers

cases, choose the latter, especially if they are large and well grown.

To conclude: Ever-bearing strawberries with commercial possibilities have been produced. The variety which seems at present best suited for commercial growing is the Superb. It provides large firm berries of excellent flavor. In the matted row it produces large spring crops and small summer and fall crops. During the summer and fall of the first season they are set, they will produce sufficient berries to pay for establishing the bed. For large summer and fall crops they should be grown in the hill system and the first blossoms removed. The Superb or other ever-bearing strawberries may prove a boon to greenhouse owners. There is a good demand for strawberries thruout the summer and fall at twenty-five cents or more per quart.—Harris T. Kille, Gloucester Co., N. J.

A GOOD WAY TO KEEP FALL APPLES.

Every year there is a period of some weeks between the normal season of the Autumn and the Winter varieties of apples when there is an absence of nice, mellow fruit suitable for eating out of hand. The only known way of overcoming this natural condition is to manage to extend the period of the late Autumn varieties. But there is the difficulty—to keep these varieties long past their natural period without great loss from rotting.

After several seasons of experimenting with seemingly possible ways of halting this decay, I have finally hit upon a simple plan that has served splendidly each season since. It is simply this: When it is time to pick the late Autumn varieties, a number of paper-board packing boxes, such as glass fruit jars are shipped in, are secured. These boxes have pasteboard partitions and will hold about a half-bushel of apples. The apples are laid, not dropped, in the boxes directly after picking, with only two handlings, care being taken not to bruise them or to rub off the bloom, but to pack them just as they are when taken from the tree. These boxes are stacked four high in tiers (with a foot space between tiers) on the back porch where they have open air without being rained on. I think any place that meets this condition would do equally well. When freezing weather approaches they are removed to the north side of the attic. (Any cool room will do as well). In this way the fruit is kept in good condition as late as the new year, by which time some of the fruit of Winter varieties will have become mellow. This plan has been tried one season by many of my neighbors also and they all report it a success, so that it seems worth passing on.—Clark Westford, Schenectady Co., N. Y.

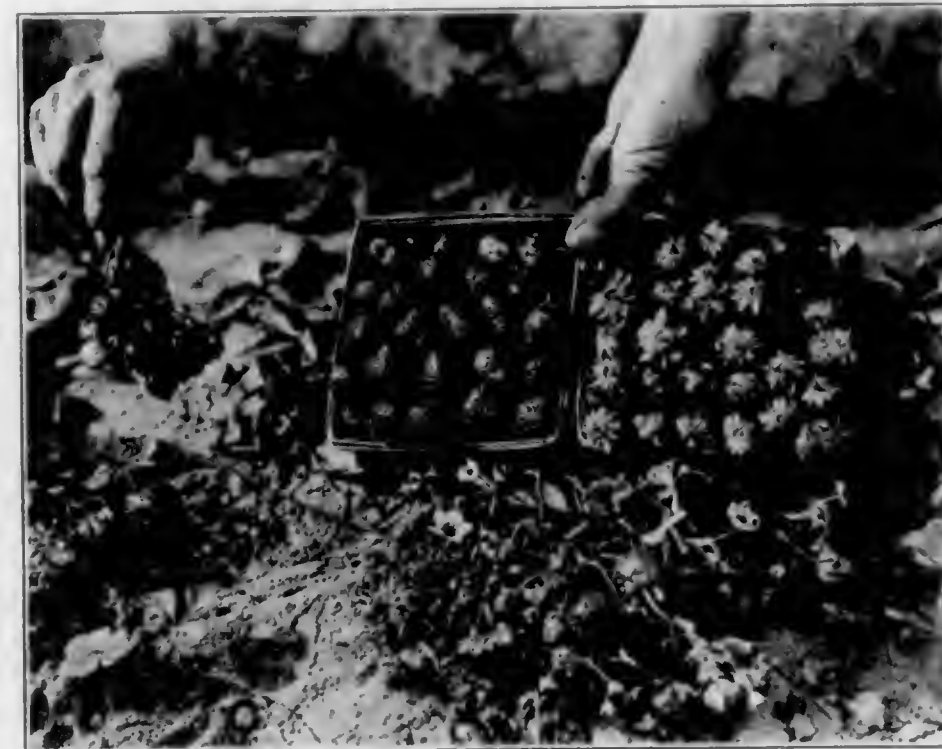
CARE OF THE OLD APPLE TREE.

Where cuts have been improperly made it often happens that the heart of the tree at cut decays because the cambium tissue or growing part of the tree has no chance to grow over the surface. If it grows over before any rot starts the surface becomes thoroly protected by the new wood and bark. But where the cut surface is not in the course of the sap from the roots to the top of the tree, then it is impossible for the tree to cover the surface since it has no power to get the food there to build new wood and bark, and as a result the surface is exposed to decay, as was the situation with the limb removed from the tree shown in the cut. Now, the owner has removed the stub and finds that there is but a shell of wood. What can he do?



TWENTY-TWO BOXES OF SUPERB STRAWBERRIES MARKED SEPT. 15, 1913, by S. Kille & Son at 25 cents per box, bringing \$5.50.

with a wheel-hoe, the plants can be set one foot apart in rows two and a half feet apart in order to permit horse cultivation one way. In either case, all runners are clipped off as soon as they appear. This system of culture conserves the moisture and keeps the plants thrifty. Then, too, if grown by this system, it is an easy matter to remove the first crop of blossoms so as to force the entire strength of the plants into the formation of a large unseasonable crop. The impossibility of supplying sufficient moisture, without irriga-



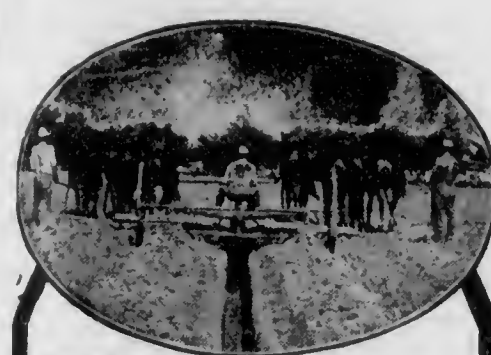
SUPERB STRAWBERRIES. ONE BOX TOPPED TO SHOW FINE CAP; THE OTHER TO SHOW SIZE.

The hill in foreground had 14 ripe berries, 60 green ones and 5 blossoms when photographed Sept. 15, 1913.

tion, together with the crowding of the plants and the difficulty of keeping down the weeds, is the only reason why the ever-bearing strawberries will not give good summer and fall crops the second summer when grown in the matted row.

Aside from the production of strawberries during the summer and fall, the ever-bearing strawberry offers possibilities to greenhouse owners of producing berries continuously thruout the winter.

November 22, 1913.



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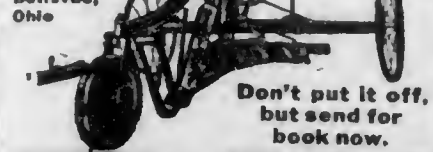
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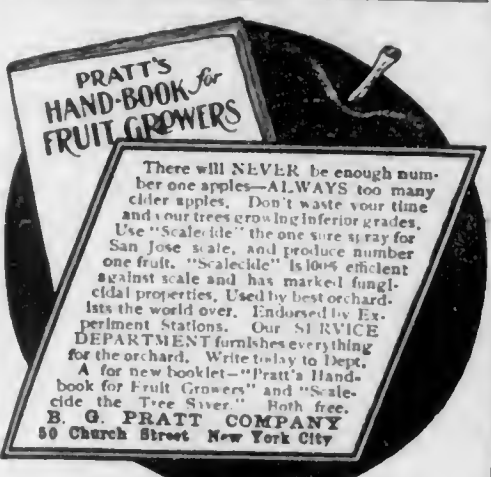
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About the best course to follow in curing for a hole of this kind is to dig out all of the decomposed wood that can be conveniently removed and fill the space with cement. Whether this would be policy in all cases would depend upon the tree. If it is of a good variety, had exhibited a tendency to bear well during the preceding years, if one did not have many and the tree occupied ground that could not be used for other purposes, then there would be more inducement to go to the extra trouble demanded than if other conditions existed. Nevertheless, the amount of labor required would not be large and one would, generally speaking, have a tree that would last enough longer to well repay for the care. It should be stated here that such conditions as this should be avoided by cutting off limbs close to the supporting branch and parallel thereto, covering the cut surface with



APPLE TREE SHOWING RESULT OF NEGLECT AFTER PRUNING.

lead paint, and keeping it so until the bark has grown over.

Mistakes in pruning often "follow the tree to the grave." They cannot be fully corrected by judicious handling thereafter. These mistakes during the life history of orchards have made many of them difficult to bring back into fruition again. To see a tree with long, bare limbs extending laterally and upward for ten or fifteen feet, having but a tuft of bearing surface at the extreme ends like a palm tree, is a barrier that discourages many courageous men who otherwise would take hold of the trees and put them in condition. But even such trees are not hopeless.

HELP FOR THE VEGETABLE GROWERS.

The New York State College of Agriculture at Ithaca, in order to help the farmer, the commercial truck grower and the suburban gardener to achieve greater success, suggests that gardeners collect the failures and problems of the year and submit them for solution to the Department of Vegetable Gardening at the college.

Tomatoes for the Canning Factory.—Delaware Experiment Station Bulletin No. 101 on growing tomatoes for the canning factories is an exhaustive study of this subject and goes into soil conditions, fertility requirements, breeding of types, spraying, cost of producing and marketing, cultivation and varieties as regards ripening time, yield and seasonal arrangements. The Bulletin is mailed from Newark, Delaware.

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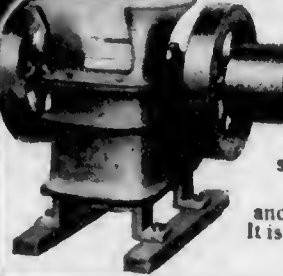
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The Dairy

LESSONS FROM THE NATIONAL DAIRY SHOW.

The eighth annual National Dairy Show has just been held in Chicago. It was by all odds the greatest dairy show ever held in America, and is now fully acknowledged to be the leading exponent of our dairy industry. This year, 28 allied interests were formed into a Dairy Council. This latter fact alone speaks of the national scope of this great show.

There is still work to be done, however, before the show reaches the high ideal set by its founders. The dairy interests of the country have been divided into sections. All should come together for the opinion of one Supreme Court. This is especially true in questions of breed type. This year, out of 116 exhibitors other than live stock, about 35 percent came from the East. This fact shows that our eastern manufacturers realize the importance of this show. Unfortunately, some of our larger breeders of cattle in the East did not exhibit. If more cattle could be secured from this section it would attract the attention of the eastern man to a greater degree.

Sixteen college students' cattle-judg-

fy that eastern colleges are now offering just as satisfactory work in this line as can be found. A closer study of the results shows that in general the eastern college students were better judges of the breeds with the more extreme dairy type, while the central western colleges excelled in those having a tendency toward the dual-purpose type. As a team judging all breeds, the University of Missouri was an easy winner.

Pennsylvania Farmer readers may be interested to know that the State College team was coached by Prof. E. L. Anthony, of the Dairy Husbandry Department. The team was made up of two second-year two-year men, Mr. Christy and Mr. McIlvaine, and one senior in the dairy husbandry course, Mr. Neeley. Mr. Neeley was the highest man in judging Guernseys in the contest, and also second man in judging Ayrshires. This work of the college teams helps to unify the study of breed type in the country and will help to develop the knowledge which we have regarding the importance of the form of an animal to its functions.

Of the six official cattle judges, just one-half were from the East. The judges were as follows: Ayrshires, H. G. Van Pelt, Waterloo, Iowa; Guernseys, Prof. G. C. Humphrey, Madison, Wis.; Holsteins, W. W. Stevens, Liverpool, N. Y.; Jerseys, George W. Sisson, Jr., Potsdam, N. Y.; Brown Swiss, H. G.

a crowd of about 20,000 people. The evening performances at this show were attended by some 12,000 Chicago people. In this way it is hoped to educate the city people along country lines and at the same time furnish the sinews of war for the show. The cattle were housed in a building connected by an overhead passage-way. Some 800 dairy animals were thus assembled.

The manufacturers were located in wings of the amphitheatre. These exhibits were both beautiful and educational. Each exhibit was in the hands of an expert. One could thus quickly be informed as to the merits of any particular exhibit. For instance, in the case of milking machines, not only did the various manufacturers have booths, but each also had a herd of cows under its control in one of the demonstration sheds, where cows were milked regularly. To see any one line of the show would have taken the better part of a week.

In one of the wings the United States Government had a demonstration herd. Here talks were given to show some of the fundamentals of dairying. The herd was composed of grade animals of about all the herds to be found. As Chief B. H. Rawl, of the Dairy Division, said, "it was hoped that any farmer could find a cow here which looked like his at home." The feed costs and milk records of the cows were published over each animal daily. Some failed to pay

the others. The East has been called too conservative, but the West has been inclined to let the small things go, and attention to details is one of the essentials to success in dairying.

The Official Dairy Instructors' Association has its annual meeting in connection with the National Dairy Show. Students enrolled in colleges having representation in this association now number over 23,000. The influence of this association is bound to be a growing one and it may be of special interest to dairymen of the Keystone State to know that Prof. C. W. Larson, of the Pennsylvania State College, was elected secretary and treasurer of the association. In every way the National Dairy Show has proven itself worthy of its name. It would be abundantly worth while for every eastern dairy farmer to arrange his business so as to attend these meetings as often as possible. Each community might arrange so that one of its members might go each year and thus every small unit could keep in touch with this Supreme Court in the Dairy World.—Prof. F. S. Putney, State College, Pa.

A MODEL RETAIL DAIRY.

The accompanying illustration shows a part of the herd at the State School of Agriculture at Alfred University, N. Y. The dairy consists of about 25 cows, made up of about equal numbers of Jerseys and Holsteins, and one Guernsey, and one Ayrshire. The dairy operations are such as to instruct students in attendance. The dairy herd consists entirely of registered animals. All heifer calves are raised, while some of the best male calves are sold for breeding purposes, and the rest are vealed. Great pains are taken to keep the calves that are reared growing every minute until mature.

This year the cows have run on pasture only about one month. The rest of the time they have been fed peas and oats, ensilage and alfalfa hay, and some grain. At night they have been turned on pasture, and part of each day, but dependence was placed on the feed given them. The feed consists of a mixture of 100 pounds of ground oats, bran, hominy, gluten, 200 pounds brewers' grain, and 50 pounds oil meal. At present brewers' grain has been reduced and cotton seed substituted. This feed is varied occasionally, according to cost of feed. Cows are fed according to the amount of milk they produce and their size. The ration is also varied as the cows advance in the lactation period. Not much change is made until nearly time to freshen. When the udders begin to spring, the feed is lightened, and some of the gluten, brewers' grain and cotton seed is cut out.

Milking is done the first thing in the morning, the milkers wearing white suits, and using covered pails. After milking, the ensilage is fed with the grain turned over it. Thirty to forty pounds of ensilage are fed each cow daily, according to the cow. At noon they have as much hay as will be cleaned up. Alfalfa is fed as long as it lasts, then dependence is placed on clover and timothy hay mixed. Ensilage and grain is fed at night the last thing. The cows are groomed about three times each week. This is varied according to the time at command.

Milk is cooled and bottled except enough to separate for cream; this amount generally gives about the amount of skim milk the calves need. Any left over goes to the pigs. Milk is retailed in the village of Alfred at seven cents per quart. The cows stand with heads facing an alley, running between them, and the ensilage is brought on a carrier from the silo to the cows.

The stables are swept daily, and every precaution taken to avoid dirt. Sanitary milk is produced, but not certified. The composite mixture tests 3.8 to 4 percent butter-fat. The cream is sold for 12 cents per half-pint, bottles returned.

The stables are well ventilated and every precaution used to maintain the best of health in the herd. Students in attendance have the opportunity to learn the best dairy practices, as well as study the various leading dairy breeds.—Clarke M. Drake, Ontario Co., N. Y.

BUTTER MAKING ON THE FARM.

Farm butter-making is not a disagreeable business if certain well-known rules are followed, and if enough interest is taken in the manufacture to make a choice product. Only a very small equipment is necessary to make good butter, but it must be used properly and kept sweet and sanitary. A hand separator provides cream that is easier to churn than any other system of milk skimming, for it is of more uniform consistency and can always be secured and handled in the same manner each time. Another important instrument is a dairy thermometer that costs 10 cents. Enough pails and cans must be used so it will not be necessary to mix cream of different temperatures. The churn, a butter-worker and a supply of parchment paper complete the required equipment.

The best time to separate the milk is when it is warm from the cow, and at this time any of the standard machines will do good work and remove the butter-fat so closely that we need not worry. An important point in separating is to have the machine adjusted so that the cream will be thick and rich, containing at least 30 percent of fat. Cream separated in this manner will churn more rapidly and less fat will remain in the buttermilk, besides the work can be done at a lower temperature. The great secret of churning at a low temperature is having the cream rich and thick. The second great secret is to have the cream cooled as soon as possible after it is separated, to at least fifty degrees, and holding it there until a few hours before it is warmed up to ripen.

Now comes the question of ripening, for as a general rule it is not best to churn cream in an unripened condition. You will get good butter, but there are difficulties in churning that make it a very intricate work and undesirable for any but an expert to perform. Great care is necessary in ripening the cream that we avoid as much as possible all bad odors and flavors. Ripening cream means holding it at a temperature that is proper until the various kinds of bacteria have time to develop lactic acid, which aids in churning and gives the characteristic flavor to the best butter.

Keep the cream until there is enough to make a churning. Raise the temperature to about 65 or 70 degrees and keep near this temperature until about ripe, and then cool before churning. Well-ripened cream should thicken and run like oil and have a gloss on a fresh surface. If the ripening has gone too far it is impossible to make finely-flavored butter from it. Never mix sweet and sour cream. Half-ripened cream neither sweet nor sour, will churn very poor butter. If sweet cream is churned, use it when perfectly fresh. Churn at such a temperature that the butter will come in from 40 to 60 minutes, when the churn is not more than one-third full of cream. This gives better butter than when it comes more rapidly.

Use water at a temperature of 40 to 45 degrees in warm weather, and 50 to 60 degrees in cold weather, allowing for

the season, solidity of the butter, etc. Put salt in the churn, and stir it thoroughly with wooden spoon. There is nothing more difficult in making good, even-quality butter than to get a uniform amount of salt in different churnings. If the salt is well mixed with the butter it will need but little working. Press it hard enough on any good worker to work out the surplus water and give it a compact texture. As a general rule it is preferable to move the butter from the churn to the worker and then pack at once to avoid streaked butter. The butter maker must always judge for himself when it is worked enough.

Next comes the question of marketing the product, and I believe this is the most important of all. When sold at the grocery it is not apt to bring its actual value. The trade is divided into four classes—the local dealer, the grocer, the private family, and the hotel trade. I would not depend upon the first two named, except the groceryman who has a select trade among the best city customers who depend upon him for certain brands of butter. In this way he will give you a good price for your product and it will be a nice trade to handle. Of course the private family and hotel trade pays the best, but it is a more critical and exacting trade to please and serve.—W. Milton Kelly, Erie Co., N. Y.

COST OF HAULING MILK.

There is not sufficient co-operation in the hauling of milk. It frequently happens that men haul a single can of milk as far as two miles to the shipping station. In many cases it would be more economical to hire milk hauled at ten cents per can. One man can haul 18 to 32 cans with one team. The average number of cans hauled to a certain shipping station by forty farmers in Sussex County, N. J., was less than five cans each per day. They haul an average distance of about three miles. The average time for hauling is probably three or four hours. The average cost of hauling when hired at ten cents per 100 lbs. would be forty-one cents per farm. The average cost to the farmer doing his own hauling, allowing 25 cents per hour for man and team, would be between 75 cents and \$1.00. In another instance, one man delivered 24 quarts of milk a distance of one mile every day. The value of the 24 quarts at 3 cents per quart was 72 cents. Another extreme case found was a farmer hauling 170 lbs. of milk a distance of four miles. The cost of hauling is reduced in many cases by letting the women or children haul the milk during the busy season.—H. W. Gilbertson, County Agriculturalist, Sussex Co., N. J.

Nobody wants to live in the same neighborhood with a man who, when he holds a public sale, will, for the sake of a few additional dollars, split up a good team of horses that have worked together for years, and sell them separately.

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The economical feed for milk production. Contains no filler, nothing but high-grade standard feeds. All the Cotteston Meal, Linsed Meal, Distillers' Dried Grains and first-class mill feeds your cows require. It makes successful dairymen certain and easy. Write for our booklet, "Economical Feeding," sent free.

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International Special Molasses Feed

AN OPEN LETTER TO DAIRYMEN
What is the cheapest feed you can buy this season? That is the question that is interesting every dairyman right now.
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If you could buy a feed for mixing with ground corn and oats that would cost you about the same as corn and oats and that would increase your milk production at least \$30 per month on each twenty head of cows, you would increase your profits \$720.00 a year if milking twenty cows per month. If milking forty cows you would increase your profits \$720.00 per year.
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Latest State bulletins give the following reports on their analysis of International Special Molasses Feed: State of Pennsylvania, protein 14.69; fat 5.74; State of New Jersey, protein 15.82; fat 5.02. State of New York, protein 15.19; fat 5.58. This compares with an average of less than 10% protein for ground corn and oats.
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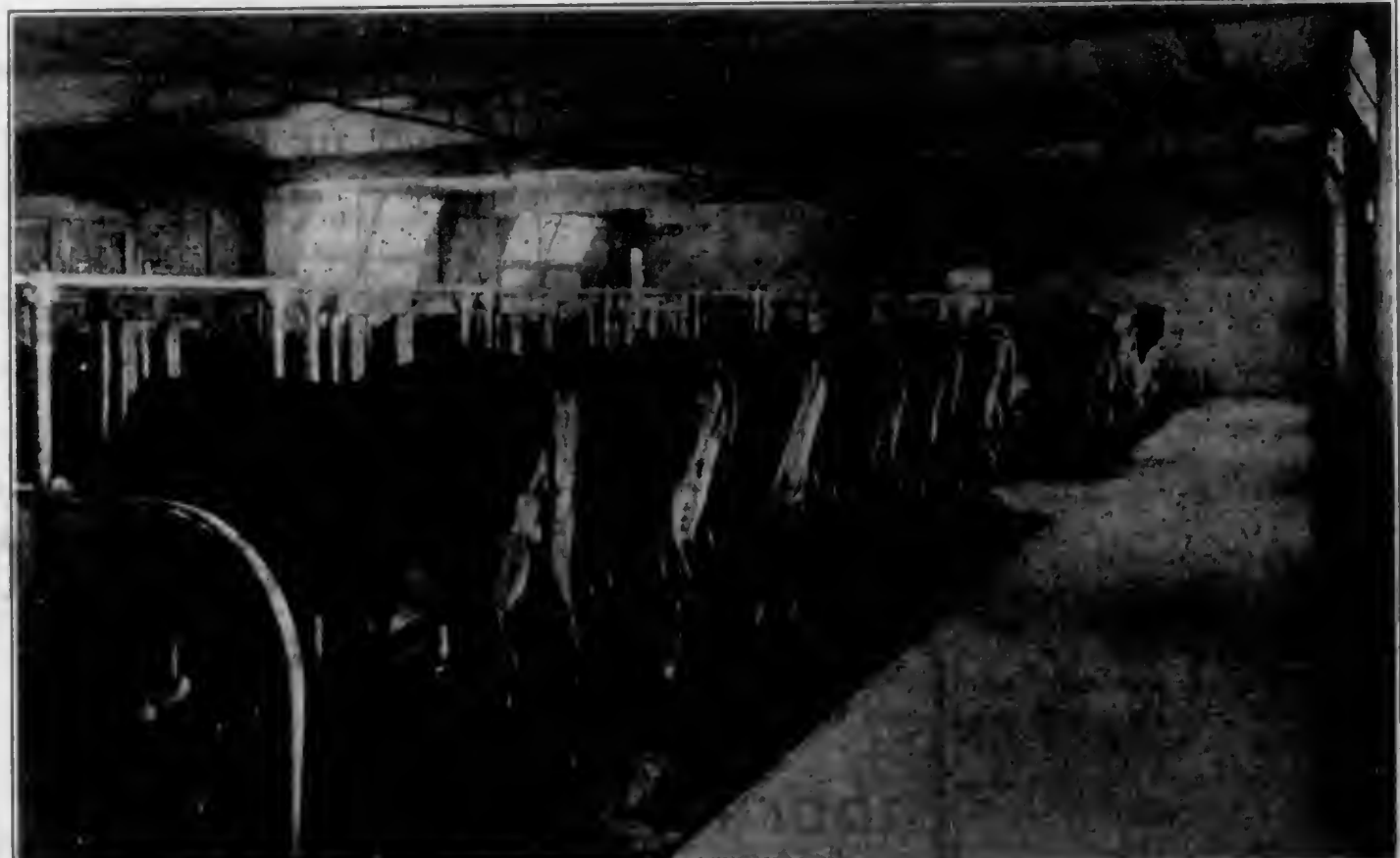
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MIXED DAIRY HERD IN STATE SCHOOL OF AGRICULTURE, ALFRED, N. Y.

ing teams were represented. Just half of these were from the East, as will be seen from the list entered, as follows: Delaware College, Iowa State College, Kansas State Agricultural College, Kentucky State University, Maryland Agricultural College, Massachusetts Agricultural College, Michigan Agricultural College, New Hampshire College, New York State College of Agriculture, Ohio State University, Pennsylvania State College, South Dakota State College of Agriculture, University of Maine, University of Missouri, University of Nebraska, and Virginia Polytechnic Institute. The list of colleges sending teams for this contest has steadily grown and the gain has been very marked in the eastern institutions during the past few years. Scholarships and prizes offered by the various herd associations were carried off as follows: Holstein-Friesian Scholarships, Missouri; Jersey, New Hampshire; Ayrshire, Kentucky; Guernsey cups, Pennsylvania.

The teaching of stock judging was first developed in the colleges of the Central West, but the above facts testi-

Van Pelt, Iowa; Dutch Belted, F. C. Minkler, New Brunswick, N. J. From the viewpoint of the onlookers, the judges from the East gave the better satisfaction. In fact, hardly a person could be found who differed from the decisions made in the case of the Holsteins and Jerseys. Unfortunately, this was not as true in the case of the Ayrshires and Guernseys.

Few indeed were the cattle from Pennsylvania, but they made up in quality what they lacked in quantity. In the case of yearling Holstein bulls, Mr. Geo. M. Carpenter, of Wilkes-Barre, Pa., took the first prize and also the fourth. While watching this class of animals being placed, it was my pleasure to meet Mr. Geo. E. Stevenson, of Lackawanna Co., Pa., who has just brought together the first herd of Polled Holstein-Friesian cattle in the world's history.

The show was held in the International Amphitheatre, especially built to accommodate the International Live Stock Show. The arena is 100 feet by 200 feet, and is surrounded by seats to hold

for their feed by as much as 30 cents a day, while others gave a profit of over \$2.00 a day after paying for feed. It was hoped that the farmer would thus see the need of weighing his milk in order to really know his profitable and unprofitable cows. Here were also given, by some of the best stock judges in America, demonstrations in judging dairy cows. In fact, the talks covered in a general way the fundamentals of dairying.

In halls connected with the amphitheatre, in the Saddle and Sirlain Club, and in downtown hotels, were held many meetings of the allied interests. Each of the chief dairy herd associations gave a banquet. On October 28-29 the annual convention of the American Dairy Farmers' Association was held. The nature of these meetings was as broad as the name indicates, and speakers from all sections presented points of interest. Meetings of this kind are extremely interesting and instructive. More eastern dairy farmers should attend these shows. Each section of the country needs to come in contact with



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Philadelphia, Pa., November 22, 1913.

The relationship between the United States and Mexico has assumed a serious aspect in the past few weeks. A slight act of indiscretion on either side might result in most serious consequences just at this time. It is time and occasion for the use of most conservative judgment not alone by the representatives of the government, but by the people as well. There are evidences of the usual impatience and reckless "jingoism" among certain classes of this country, but the sober, serious judgment of the general public cannot fail to condemn such sentiments and stand solidly in support of the President in a patient effort to bring about a satisfactory adjustment without a needless force of arms. There is more genuine patriotism in a sensible weighing of costs and results at such a time than in a reckless demonstration of power. The fundamental principles involved, the probable consequences of hasty action, and, above all, the humanitarian aspect of the situation, are so concisely shown in the following letter that we believe it will be of interest and value to all of our readers. The letter was written by Mr. M. J. Lawrence, president of the Lawrence Publishing Company, to President Wilson. Mr. Lawrence served four years in the Civil War. He has traveled extensively thru sections of Mexico and speaks from a close personal acquaintance with the country and its people. The letter follows:

November 10th, 1913.

My dear Mr. President:—

If a just cause should arise for a war with any other government, I think I would be as courageous in sentiment as any one, but in sincere patriotism and with a foreknowledge of probable results, I view with absolute horror and alarm the possible armed intervention by us with the purely internal troubles of Mexico. From my insight of the matter there is positively no justification for this action on our part. The only plea is protection of U. S. citizens and their investments, which are not at all seriously threatened, and, if so, we should hesitate over the knowledge that if we march an armed force over the Mexican border it will cost a hundred lives of U. S. citizens and a hundred U. S. dollars to one citizen and one

dollar that there is any possibility of loss under present or probable future conditions.

We have everything to lose and nothing to gain. The days of reward by conquest and indemnity are past. From a philanthropic viewpoint the subject is in no way worthy of the cost. With the low pedigree and grossly immoral character of the great mass of the Mexican people, a peaceful settlement or any material progress in civilization by our government systems is a hopeless task. I have very much admired and approved of your firm stand so far, in repelling the jingoism of politicians and some other enthusiasts. May I hope that you will continue? I absolutely know that the great mass of the intelligent people and the important business interests of our country look with much alarm and for no satisfactory results from an armed interference with Mexico. The life and health of a citizen soldier is just as precious a care for you as that of any other citizen. With much respect, I am,

Very truly yours,

M. J. LAWRENCE.

Why not make the Thanksgiving observance of Thanksgiving Day a community affair? Read the delightful description of the community Thanksgiving on page 12 of this issue. Contrast the natural results in closer fellowship and neighborhood harmony of such a gathering in the observance of the original purpose of the day with the modern tendency toward the selfish, clannish gatherings in which the blessings of the year are forgotten in an effort to do justice to mother's cooking. If it is good for the individual or the family to set aside a day for meditation on the blessings of the year and giving thanks for abundant harvests, is it not well for the community to do so? The communi-

ty is but a larger family, dependent upon the same manifestations of a common Ruler, and sharing alike in the factors which largely determine the returns of the season. The home gatherings and family reunions are good and cannot come too frequently, but they must not reflect the spirit of the proverbial prayer, "Bless me and my son John, his wife and my wife; we four and no more." Make the Thanksgiving a neighborhood affair. Discuss your successes and failures with your neighbors. Get closer together in your mutual interests, and as you get better acquainted with those who make up your neighborhood family you will find more blessings to count and richer harvests for which to give thanks. This is the age of co-operative and community effort. Acknowledge fellowship in the good things as they come, and that fellowship will accomplish more in the serious problems of life.

Our Harrisburg correspondent, in the State capital news department, has frequently commented upon the need of systematizing state appropriations. He has declared this to be the most needed reform in state legislative matters. For years the state has carried a list of beneficiaries who have no just claim upon the state's support. These include semi-public educational and philanthropic institutions which minister to local needs, are under control of local authorities, and in no way have claims upon state support. The state appropriations to such institutions and even less worthy objects have been continued largely thru the influence of politicians who desire to bolster home support at state expense, and the practice has been the chief cause of the large excess of state appropriations over available resources, making necessary the "pruning" by the governor, as in the last

OBOP REPORT.

Pennsylvania and United States, November 1, 1913.

Crop estimates and forecasts, November 1, 1913, with comparisons, for Pennsylvania and for the United States, as made by the U. S. Department of Agriculture, are given below. Condition estimates are given in percentages of a normal.

	Pennsylvania		United States	
	1913	1912	1913	1912
Corn:				
Yield per acre.....bu....	38.5	42.5	23.0	29.2
Production.....thousand bu....	56,326	61,582	2,463	3,124,746
Old, on farms November 1,				
thousand bu....	2,463	2,554	137,972	64,764
Quality, 1913 crop.....percent....	84.0	88	82.2	85.5
Potatoes:				
Yield per acre.....bu....	88.0	109	59.2	113.4
Production.....thousand bu....	23,320	28,885	328,550	402,647
Quality.....percent....	90.0	88	87.8	90.5
Buckwheat:				
Yield per acre.....bu....	18.5	24.2	17.2	22.9
Production.....thousand bu....	5,716	7,405	14,455	19,249
Quality.....percent....	88.0	90	86.5	91.1
Tobacco:				
Yield per acre.....lbs....	1,200	1,450	790.0	785.5
Production.....thousand lbs....	46,680	64,090	903,875	962,855
Quality.....percent....	84.0	91	84.7	87.4
Apples:				
Production.....percent....	39.0	49	44.6	69.9
Quality.....percent....	76.0	80	70.2	83.0
Grapes:				
Production.....percent....	55.0	80	72.8	87.9
Quality.....percent....	83.0	88	86.0	90.9
Prices to producers, Nov. 1:				
Corn.....cents per bu....	76.0	70	70.7	68.4
Wheat....." " " " " "	91.0	95	77.0	83.8
Oats....." " " " " "	45.0	41	37.9	33.6
Buckwheat....." " " " " "	71.0	63	75.5	65.7
Potatoes....." " " " " "	80.0	51	69.6	45.5
Butter.....cents per lb....	34.0	32	28.2	26.9
Eggs.....cents per doz....	34.0	33	27.4	25.9
Hay.....dollars per ton....	14.20	14.50	12.26	11.80
Prices to producers, October 15:				
Hogs.....dollars per cwt....	8.90	8.30	7.60	7.70
Beef cattle....." " " " " "	7.20	6.40	6.05	5.36
Apples.....cents per bu....	80	60	85.6	61.3

session. The extent of this abuse of appropriations is made evident in a statement by State Treasurer Robert K. Young, on November 14, in which he said that under existing laws and without any extension of the taxing power, the state legislature could provide \$5,000,000 per year for road work. Mr. Young made it quite evident that he believed the recent defeat of the road bond amendment to be a good thing; that \$5,000,000 per year was all that any state highway department could spend economically and efficiently each year, and that that sum could be made available as soon as a legislature could be assembled which would cut off all needless beneficiaries and limit state appropriations to state enterprise. His statement is an effectual reply to those who declared the bond amendment the only means of maintaining a permanent, progressive system of road building. It also points the way for all those who are genuinely interested in good roads work. The matter of systematizing state appropriations should be a leading issue in the next legislative campaign. If the different parties would write the reform into their party platforms, and permit the people to vote their preference, they could soon do away with an abuse of public funds which would leave sufficient revenue for all legitimate state expense, and abundantly care for the road problem.

The Philadelphia health

Pasteurized authorities who re-

Milk. sponsible for the recent

order that all market milk

entering this city must be pasteurized

should be interested in a recent state-

ment by Dr. Ralph Vincent, of London,

before the Medical School of Johns

Hopkins Hospital. Dr. Vincent said:

"The only solution of the milk problem

is pure milk in its natural condition.

When we feed milk that is sterilized

or pasteurized we are feeding an un-

natural product. It is impossible to

successfully rear children on cooked

food when their normal food is raw."

If the recent order is enforced, it will

not only throw all of the milk business

into the hands of the large wholesale

dealers by shutting out the farmers who

sell to private customers, but it will

compel all city consumers of the poorer

and middle classes to use pasteurized

milk. The only milk to be exempted

from the ruling, according to announce-

ment, is certified milk, and that class

is out of reach of the average con-

sumer. There will be nothing for the

poorer families to use but what Dr. Vin-

cent condemns as an inefficient, unnat-

ural food.

Altho Pennsylvania is not

A Corn usually classed as one of the

State. leading corn states, it has the

distinction of ranking first

among such states in average yield per

acre over a period of ten years. In the

government crop report for November 1

of this year, yields per acre are given

for the leading producing states, and

Pennsylvania is credited with an aver-

age per-acre yield of 37.6 bushels of

corn during the past ten years. Ohio

ranks second with 37.3 bushels per acre,

and Indiana third, with 36.7 bushels.

Pennsylvania ranks third for the year

1913, with 38.5 bushels per acre, and

was third last year with 42.5 bushels.

Iowa leads this year in total production

with 338,198,000 bushels, followed by

Illinois, Indiana, Texas, and Ohio, in

the order named. Pennsylvania ranks

sixteenth in the list of states in total

production for the year, with 56,326,000

bushels. The high average yield per

acre is probably due as much to natural

conditions of climate as to improved

methods or careful culture. The results

from any of the boys' corn-growing contests suffice to show that the state's average, altho high, is not crowding the maximum. There is room for much improvement.

STATE CAPITAL NEWS

Gain in Personal Property.—Altho it is well known that all of the personal property in the state is not taxed, and that much of it is impossible to get hold of for assessment, yet the report about to be issued by the State Revenue Commission on the personal property tax under an act of 1913 it all goes to the counties next year. The personal property tax goes back 75 years, altho the system under which what is paid getting three-fourths of what is paid dates from 1891. Under the act of 1899 the tax was three mills and the counties got one-third, but two years later the tax was made four mills and the counties got three-fourths. In 1890 all of the personal property taxed in the state aggregated \$546,965,902, and the gross tax was \$1,640,897.52, of which the counties got \$546,965.55. In 1913 the total personal property assessed was \$1,402,511,278.85, an increase over 1912 of \$76,400,000 and more. In all, \$5,610,045.13 was paid as personal tax, and the counties got \$4,165,458.35. Perhaps this vast amount of wealth can be better appreciated if it is stated that since 1890 no less than \$20,000,000,000 of wealth has been taxed, a gain in that period of over \$855,000,000. The counties have received almost \$60,000,000 of personal property tax in that period, the gross tax collected amounting to \$1,361,661.64. No other state in the union can show such a tremendous amount of wealth. It is expected that the new tax on anthracite coal will replace the loss to the state of its share of personal property tax. This tax is to become effective on January 1 and will be fought in the courts.

Plenty of Revenue.—Now since the road bond issue has been defeated some officials on Capitol Hill are finding that if there is an honest effort to get rid of appropriations which are not wanted the next legislature can find \$10,000,000 for road construction. This is the view of State Treasurer R. K. Young, publicly expressed, and privately the view of many other prominent men. It only needs a legislature to establish a definite policy in appropriations and the cutting off of the unworthy to settle the road question.

Control of Dams.—Engineers of the State Water Supply Commission have begun a systematic inspection of all large dams in the state, and it is proposed to extend it until all dams in the state are covered and a system established whereby information regarding all dams to be erected in the future will be available at once. Incidentally, the number of dams in use for mills will be taken into account. The state will absolutely control erection of all dams hereafter.

No More Toll Road Actions.—State Highway department officials say that they do not contemplate taking over any additional toll roads for a year at least. The recent proceedings in Franklin and Fulton counties demonstrated that the law giving the right to condemn is sound and time will be taken to work out the best sections to condemn. The appropriation made by the legislature was only \$200,000.

State Police in Woods.—With exception of state policemen on duty in connection with the strike at Erie, practically all of the policemen are in the woods assisting game and forest wardens in keeping down illegal hunting. Numerous reports of killing of deer have been received, but most of them appear to have been accidental. The policemen have assisted in several arrests in the South Mountain region. The game authorities have held that a deer shot in season is the private property of the man who brings it down.

Interest in Institutes.—Judging from letters received at the Capitol, Director A. L. Martin, of the farmers' institutes, says that there is greater interest than ever in the sessions and that the work of the farm counsellors has caused many people to desire further information and to plan attendance at the institutes and movable schools. "The outlook for institutes this winter is excellent and I look for a record-breaking attendance thruout the state," said Mr. Martin.

Compliments for State Work.—Officials of the State Live Stock Sanitary

Board have been highly complimented for the excellent work of the board's agents in handling immunization of hogs. This assistance has been rendered in a couple of hog cholera outbreaks in Lebanon, Delaware, Chester and Northumberland counties, and herds have been saved, according to letters received at the office.

Important Matters Up.—The sessions of the Public Service Commission scheduled for this week are of the utmost importance because of the questions to be settled. Protests against the increase in freight rates have been made by lumber, fertilizer and machinery asked. Several protests have also been made on the advance in rates on young trees and on telephone poles. The telephone rate question, the right to issue passes, and how to organize the commission for its work next year, when the act will be in full effect, will come up.—Hamilton, Harrisburg, Pa., Nov. 17th.

NEW JERSEY FARM NEWS

State College News.—A team of students from the state college is at Washington this week where they have been entered in the judging contest to be held in connection with biennial meeting of the American Pomological Society. At the annual meeting of the board of managers, just held, a special money was appropriated for the use of the extension department. The Experiment Station which hitherto has had no regular appropriation of its own. Work on the new buildings is being rushed to accommodate the large number of students who are to take the short courses in agriculture this winter. The new agricultural building, which is almost finished, and it is expected that work will be completed by the time the pilgrimages is now at hand. The members of the junior agricultural class have just paid a visit to the American Nurseries at Springfield, where an illustrated address was delivered by Professor Burton on "The Propagation of Hardy Fruit and Ornamental Trees."

A party of fifteen students from the Freehold High School—where the first high school course in agriculture was established in New Jersey—made a visit of inspection to the College Farm and Experiment Station. The College Agricultural Society is co-operating with the Middlesex Agricultural Association for an agricultural fair in December. It is planned to have exhibits from all over the state. Dr. J. G. Lipman, director of the Station, is to give course of eight lectures this winter at the Brooklyn Institute of Arts and Sciences. This course will cover the subject of intensive agriculture.

Poultry Enumeration.—The Department of Poultry Husbandry of the Experiment Station is at work enumerating a number of cities in the state to learn the number of homes keeping back-yard flocks of poultry. New Brunswick has already been completed with a population of 27,000 inhabitants, and a house-to-house canvass shows the presence of 14,000 birds kept in small flocks in the city back yards. This is one bird to every two people, and if this same proportion holds true thruout the state it will mean very nearly doubling the number of birds which are given for the state in the federal census, since only those on farms have been taken for the census.

Garden Clubs.—The women of Red Bank, following in the footsteps of their sisters elsewhere, have organized a Garden Club, the object of which is to beautify front yards and to encourage the growing of vegetable crops in the back yards. The idea is not only to make a "City Beautiful," but also to do something towards reducing the high cost of living. So far, \$150 has been donated for prizes, and more will follow.

Farmers' Institutes.—Farmers' institutes will be conducted in this state this winter on a far larger scale than ever before. They will be held under the immediate supervision of Professors Alva Agee and John H. Voorhees. More attention will be paid to truck farming than formerly. This will strengthen the frequent contentions of the writer that the farmers of New Jersey are making an egregious mistake in not paying almost exclusive attention to this most important and profitable phase of agriculture.

Crops Below Standard.—From returns received date it would seem that the yields per acre of the several farm crops of the state will fall below the yields of several previous years. A number of causes have contributed to this result, as late spring frosts, lack of sufficient rain, prevalence of insects and blights. The latter has seriously reduced the total yield of white potatoes. The Southern Wilt disease is chiefly responsible for reduction in this crop. Late frosts reduced crops were injured by the same cause. From present appearances corn will exceed the yield of last year, while wheat, oats, rye and hay will run about the same as 1912.

Milk and Eggs.—Milk producers are not receiving what they should for their costly product. Dairy animals have doubled in price within a short period past. Cattle feeds are very costly, and help is scarce and high. Farm dairies could not exist except as they are run with the other business of the farm, as is shown by the fact that strictly commercial dairies must have a much larger price for their product. The industry as a whole, however, is a very important asset to the state's farm income. The poultry and egg products will, it is quite certain, exceed the output of any previous year. They exceeded \$5,000,000 last year. The total farm products of the state for 1913 will reach, if it does not exceed, \$6,000,000. Complete returns will be received and made up for the meeting of the State Board of Agriculture, which meets late in January. The above are based upon a preliminary report of Franklin Dye, secretary of the State Board.

Probable Legislation.—Grangers in various parts of the state, as well as many produce dealers, have promised to take up the fight for the repeal of the law requiring the covering of produce. Since this law was passed to safeguard public health, it is hard to understand the logic of the present situation. The new basket law is now in effect and it will be rigidly enforced. The passage of a uniform barrel law will be urged upon the legislature. Many hope to see national law covering these matters. Would it not also be a good plan to enforce the law requiring coal dealers to give full weight? Members of the various county mosquito exterminating commissions are to hold a convention in Atlantic City to arouse public sentiment against the repeal of the law creating such commissions. There never was a public demand for this law; it has never proven a success. In Essex county, for instance, where vast sums have been expended, there were more mosquitoes this summer than ever before. The law is likely to be repealed.

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MARYLAND NOTES

Good High School Training.—Three Caroline County Agricultural High School boys won high honors at the cow-judging contest held at the Maryland State Fair. Luther Short was first prize of \$15 for best work in judging Jerseys; Guernseys, Holsteins and Ayrshires; Mulford Swing was awarded first prize of \$10 for best judging of Holsteins, and James Clark, third, \$2.50, on same. This is indeed a great showing when it is known that these boys were in competition with 40 freshmen of the Maryland Agricultural College.

School Fair.—Queen Annes County recently held a second annual county school fair, a success in every way. The Governor, U. S. Commissioner of Education, and professors of the State Agricultural College were present.

New Agricultural School Plan.—Ten boys who are graduates of the High School at Sparks, Md., have formulated plans to form an Agricultural High School to be located near Glenoe, Baltimore county.

Good Apple Crop.—Mr. Blake of Harford county, this season sold from his two-acre orchard 700 bushels of apples. Thirty bushels of prime apples were picked from one tree. Mr. Blake says the fine yield is the direct result of timely and proper spraying.

Corn and Potato Congress.—The fifth

annual Corn and Potato Congress was held last week by the High School at Sparks, Baltimore county. It was held under the auspices of the Baltimore County Association of Boys' Corn Clubs. Among the awards were the following: Silver cup for winner of corn test, awarded to Abram S. Pearce. Sweepstakes cup for best all-round yield of corn, awarded to Edward Santor. Potato contest, farmers' exhibit, Fred Thompson, first; boy and girl growers, Delamare Akhurst, second. Prominent professors from U. S. Department of Agriculture, and State College were present and lectured on various topics.

—G. O. B.

A LITTLE PAINT IS A GOOD INVESTMENT.

Here and there in the country one sees farms where all the buildings are kept freshly painted. What a difference it makes! How fresh and new and cheerful the farm looks. These are the places strangers stop to look at, and many times \$20 worth of paint adds \$500 to the value of the farm.

In the United States there are thousands of paint manufacturers, and yet not over six or eight are known to farm folks. These are the ones who are proud of their paint, who know they make a good paint and who want the people, everywhere, to know about it. You will find them advertised in the Pennsylvania Farmer.

INSTITUTES NEXT WEEK.

Pennsylvania.

A Community Thanksgiving

The Puritan Spirit.

By REBECCA PORTER.

Twenty years ago I attended a Thanksgiving dinner that I wish could be repeated this year and every year. I was teaching in a district school up among the pines of northern Wisconsin, and was happy every minute of the time. The people were prosperous and contented and worked together in a way that was good to see. They were all Danes, with the exception of two "Down East Yankees," and all belonged to the same church. Not one scandal, quarrel or sign of bitterness ever came to my notice. It sounds tame, but really we had plenty of fun. We wanted good times and generally got what we went after. Such "pulling together" could hardly fail.

The church and school were social centers, and as the minister was well liked and I, too, it was an arrangement that worked out well. I was invited everywhere and was treated royally. The teacher was one to be honored and loved, for she was moulding the lives of their children. I used to pray to be able to do my work as well as they

the whole neighborhood always had Thanksgiving dinner in the church and I, of course, was invited. A number of the young people, who were now in the city, would be back, and they thought I would enjoy it.

A whole community to have their Thanksgiving together! Who ever heard of anything so in keeping with the spirit of our fathers! It was so different from anything I had ever seen, and so like these people in every way, that I was enthusiastic at once, and accepted gladly.

Would they like me to furnish candy? Yes, altho they always had taken up a five-cent collection for that. It seemed too bad to upset that arrangement, so I offered to bake a cake if my landlady would let me. The idea of the dear old lady refusing was so unheard of that we laughed at the idea.

The more I thought of the coming dinner, the nicer it seemed, and I found myself anxious to do more than was expected for their entertainment. The pine trees and endless vines of

Their red berries and green leaves above the snow are beautiful. The berries told me what to do for my cake. I hurried home and frosted it and over that laid the leaves and berries, as nearly like those in the woods as possible. It was even prettier than I expected, and when the ladies saw it they said it was too pretty to eat. They were as good as their word, and used it for a table decoration, afterward sending it to an old lady who was too feeble to come.

Getting dinner was even more fun than eating it. The men moved pews from the middle of the church room and put long tables in their places. They carried water, tended the babies (imagine that if you can) and took vegetables and coffee to the parsonage for cooking. The dinner table was splendid. It extended the whole length of the church, seating a crowd of thirty-six. In the center was an elevation, covered with dark green sycamore. Over this were piled snow apples, oranges and purple grapes. Farther down the table were geraniums, whose dark red flowers matched the apples perfectly. At each place was a spray of winter green, partly covered with candy. I have never seen a prettier table or a more beautiful room. We had used Nature's own gifts, and it was better than we expected.

And the things we had to eat! Nothing was forgotten, for a whole neighborhood was trying to outdo one another in making it a success, and we were all enjoying it together. That was what made it worth while.

The minister pronounced a blessing, and each one, down to the youngest, seemed to feel it's message. The silence of thirty-six people, with heads bowed before their Maker, is something to remember. After that the voices rose cheerfully. There was no cut-and-dried conversation, but talk flowed on easily and pleasantly. Every woman wanted to sample what every one else brought, and the men wanted to sample everything. I never ate with such enjoyment in my life and never expect to again. I think the smell of the pines must have sharpened our appetites and our brains. It was a real feast.

When all were satisfied, we listened to some fine after-dinner talks—not speeches. The minister gave a splendid talk on Thanksgiving Day, which was new enough to be really interesting. One or two of the others told about early times in their adopted country, and others told their queer ideas about it before coming over. So, gradually, the talk became more informal and the children and young folks slipped out for games, leaving the older ones to their reminiscences. These were so interesting that, young as I was, I stayed to listen. For the first time in my life I realized what America means to the foreigners, and what it should mean to us. And the thought has never left me.

But it had to come to an end as all things do. By degrees the women picked up their dishes and eatables, joining in the talk as the spirit moved them. The bell was rung and the young people came back and joined in singing hymns—some in Danish, some in English. That is the way to sing hymns, all voices vibrating in sympathy and harmony. Finally, America was given out, and I love to think of the way it was sung. There we stood, shoulder to shoulder, heart responding to heart, our voices swelling with Thanksgiving and praise, a perfect ending to a happy day.

On the way home I met a child who gave me a great basket of winter greens. If you have never seen winter greens you have missed a treat indeed. The leaves are a dark, glossy green, with four or five small red berries growing out of each cluster. They like the pines and are usually found near them.

Thanksgiving, the day of home rejoicing and festivity, is also a time when the hostess may remember her

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friends and give some little party that shall be informal in nature and delightful in remembrance. Whatever the event for which the entertainer is planning, it will include novelties suggestive of the harvest, the gathering-in of the earth's goodies, and the decorating of the table in some simple, effective way.

Our illustration shows some Thanksgiving cakes on a round tray. These are ordinary small cakes, but are made attractive by topping with whipped cream with a few sugared grapes on top of each.

Nothing can be prettier for the centerpiece than fruit, rubbed and polished, arranged as here shown, or in an ornamental basket which may be lined with decorative leaves or with bright crepe paper. An old-fashioned cake basket also makes a lovely centerpiece. It may be filled with fruit instead of cake, the handle may be wired across firmly to stand erect (the wire hidden under the fruit), and pretty bunches of grapes may be hung from the top of the handle. The hollowed-out pumpkin, rubbed until it shines, is also a favorite method of holding a fruit centerpiece to advantage, and while this idea is not new, it is very pretty.

I give below a number of recipes suitable for a harvest-home supper or for any occasion of hospitality where the abundance of earth's plenty is to be the keynote.

Delicious Salad.—Two cups of boiled chicken meat, one-half cup green peppers, one cup of chopped celery. Mix with mayonnaise dressing, put in small molds, chill, and slip out on lettuce leaves. Garnish with celery sprays.

Cranberry Sandwiches.—These are delicious when there is a little cranberry sauce on hand. Cut rounds of brown bread, spread with cranberry sauce and sprinkle a very little chopped celery over the cranberry. Cut in half if the rounds are large; if small, leave in circular shape.

Pumpkin Pie.—One cupful of cooked pumpkin, one and one-half cups of milk, two eggs, three tablespoonfuls of sugar, one teaspoonful of ginger, one teaspoonful of cinnamon, one-half teaspoonful of cloves, pinch of nutmeg and a little salt. Mix the eggs after being well beaten, with the mashed pumpkin, add the sugar and spices mixed together, lastly the milk. Bake with one crust. Decorate the pie with whipped cream on top. A modern fashion is to serve small pies instead of one large one. The little blue pie plates are pretty for this purpose and make a decorative dish for the dinner table when served on a large ornamental tray.

Creamed Celery.—Cut celery stalks in good-sized pieces and cook until tender. Drain and salt and cover with a thick cream sauce made by placing two tablespoonfuls of butter in a skillet, and when melted adding two tablespoonfuls of flour, then adding a half-pint of milk slowly until the mixture is thick and creamy.

Turkey Roll.—This dish is a delicious one to serve when there is only a little turkey meat remaining. Make a good pie crust and roll quite thin. Sprinkle over with some dots of butter and the turkey meat either chopped or sliced very thin. Roll up the paste as one would a jelly roll and bake in a moderate oven. Have ready some rich gravy simmering on the stove. When the meat roll is browned daintily pour over the turkey gravy and serve hot. This recipe may be used with any left-over meat and is a tasteful way of utilizing left-overs.

Favors for Thanksgiving and Other Novelties.

Serve cranberry sauce in little "pot" shapes, with a spray of wheat stuck in the top of each.

Have ears of corn at each place. These can be made of tissue paper, with some gift wrapped inside for the "ear." Popcorn balls, made in elongated shape, can also be enclosed therein if desired.

Oranges can also be used to hide some little gift. Make some orange dessert, carefully saving the orange skins. Wash them thoroughly, inside and out, and enclose some little Thanksgiving novelty in yellow tissue paper. Press the orange skins together firmly, gluing the edges of the halves slightly, and tie about with red ribbon bows.

Apples brightly polished make pretty candlesticks for the corners of the Thanksgiving table. Little collars of red crepe paper, a round hole cut in them to admit of the candle, will cover any rough edges of the apple that might show.

In preparing the Thanksgiving feast, have a room set apart for the elders and one for the children. It is very hard for grandmother and grandfather to listen to the shouts of the children, when they would be glad to talk to the "aunties and uncles" quietly, and it is equally hard for the children not to enjoy their harvest-home games to the utmost. Let old and young enjoy themselves in their own way.—Marjorie March.

PENNSYLVANIA FARMER PATTERNS

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt and age for children's patterns. Address: Pennsylvania Farmer, 214-18 So. 12th St., Philadelphia, Pa.



6398.—Ladies' Two-Gored Skirt.—Five sizes, 22 to 30 inches, waist measure. Size 24 requires 2 1/2 yards of 44 or 54-inch material. Price of pattern, 10 cents.

6392.—Ladies' Dress.—Five sizes, 34 to 42 inches, bust measure. Size 36 requires 2 1/2 yards of 54-inch plain material; 14 yards of 36-inch plain goods. Price, 10 cents.

6396.—Girls' Dress.—Four sizes, 6 to 12 years. Age 8 years requires 2 1/2 yards of 36-inch figured goods, 1/2-yard of 27-inch plain goods. Price, 10 cents.

6039.—Boys' Blouse.—Sizes 4, 6, 8, 10 and 12 years. Age 8 needs 2 1/2 yards of 36-inch goods. Price, 10 cents.

6424.—Girls' Wrapper or Bathrobe.—Six sizes, 2 to 12 years. Age 8 years requires for wrapper and slipper, 4 1/2 yards of 27-inch material. Price, 10 cents.

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6039.—Boys' Blouse.—Sizes 4, 6, 8, 10 and 12 years. Age 8 needs 2 1/2 yards of 36-inch goods. Price, 10 cents.

6424.—Girls' Wrapper or Bathrobe.—Six sizes, 2 to 12 years. Age 8 years requires for wrapper and slipper, 4 1/2 yards of 27-inch material. Price, 10 cents.

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6424.—Girls' Wrapper or Bathrobe.—Six sizes, 2 to 12 years. Age 8 years requires for wrapper and slipper, 4 1/2 yards of 27-inch material. Price, 10 cents.

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6396.—Girls' Dress.—Four sizes, 6 to 12 years. Age 8 years requires 2 1/2 yards of 36-inch figured goods, 1/2-yard of 27-inch plain goods. Price, 10 cents.

6039.—Boys' Blouse.—Sizes 4, 6, 8, 10 and 12 years. Age 8 needs 2 1/2 yards of 36-inch goods. Price, 10 cents.

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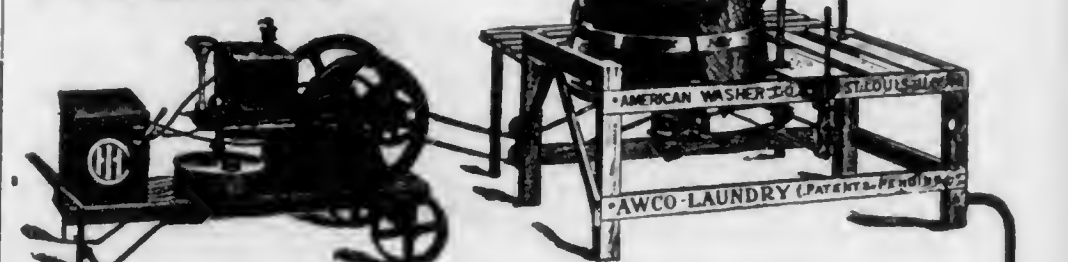
had it brought to my mind this fall when we had the hard frost that cut the potato crop short at least one-third in our vicinity. One of our neighbors looked at his potatoes, the tops all turning black, and said: "What a shame; our potatoes are just spoiled." His wife, a busy, cheerful little body, said: "John, when I was a little girl my aunt told me the story of the Puritans; how, after repeated failures, sickness and trials, they succeeded in raising just enough food to last them thru the winter. For that they spent one whole day, in giving thanks. Now, look at your bountiful crop of corn, barn full of hay and grain and an abundance of fruit and vegetables. You had better think what we have to be thankful for and not complain."

Needless to say, John took the advice, but how many children of the present

day could tell us the story of the first Thanksgiving! That story was told to that woman when she was a very little girl, but she never forgot it, and what is more, she knew how to apply its lesson. Now, this is my idea for a Thanksgiving dinner. There are plenty of others to plan the bill of fare. My plan deals with the spirit of the day.

At each place place a card or slip of white paper, also a bit of pencil. Then have a motto in the center of the table, written, printed or made of autumn leaves, as you choose, with the words, "For what are you thankful?" Then each one at the table is to write on his or her card the especial things for which they are thankful, be it one or many, and sign their names. After dinner the cards should be banded to the hostess to be read aloud.—Mrs. Ida Griggs.

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Find out about these things before you buy another washer. If you want absolutely the latest features in washing machines, here they are. It is marvelous the way this outfit takes the clothes from the washer—puts them into the rinsing water, then takes them from the rinsing water and puts them into the wringer and then lifts them from the wringer and puts them into the drying line. You can have a whole laundry which may be pushed out of the way into a corner. Our arrangement whereby all lifting and moving of heavy tubs is positively done away with.

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Winston of the Prairie

By HAROLD BINDLOSS

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SYNOPSIS OF PREVIOUS CHAPTERS.

Farmer Winston, having failed as a homesteader, desperate, accepts a proposal to simulate Lance Courthorne, an adventurer. Courthorne and his pals are thus able to carry thru some smuggling operations. In the clash with the police, Courthorne kills Trooper Shannon, leaving evidence pointing to Winston as the murderer. The scene shifts to Silverdale, founded by Colonel Barrington. The Colonel is worried over wheat operations and the coming advent of Lance Courthorne, cousin to Maud Barrington, niece and ward of Colonel Barrington, to claim his share of his father's estate. Maud Barrington is told of Courthorne's past misdeeds. Winston, meanwhile, has pushed on to Montana, being held and later released, for lack of evidence, by a government officer, who discloses the belief on the part of the police, that Winston is the murderer of Trooper Shannon. A letter for Courthorne is opened by Winston. Complying with instructions therein, he meets and confers with a lawyer respecting Courthorne's inherited acres at Silverdale, and following out his role as simulator of Courthorne, goes to Silverdale and is there received as graciously as could be expected. Some of his actions fail to tally with Courthorne's reputation. He wins the good will of Dane, one of the Colonel's advisers. The real Courthorne, who was supposed to have been drowned during the smuggling adventure, now reappears in Montana, inadvertently learns of his inheritance, and pieces together conclusive evidence that Winston has gone to Silverdale. Unexpectedly meeting Lily Blake, whose life he had blighted, and who is now a waitress in the hotel and is engaged to a ranchman, he makes a compact with her, by which they are to ignore each other's identity. Winston, finding Maud Barrington at the home of a farmer, insists that she allow him to drive her home in view of a threatening storm, and during the journey dares to arraign her uncle's business policy.

CHAPTER X.—Concluded.

Maud Barrington made no answer, but she was sensible of a respect which appeared quite unwarranted for the dryly-spoken man, who, she guessed her words stung him now and then, bore them without wincing. While she sat silent, shivering under her furs, darkness crept down. The smoky cloud dropped lower, the horizon closed in as the gray obscurity rolled up to meet them across a rapidly-narrowing strip of snow. Then she could scarcely see the horses, and the muffled drumming of their hoofs was lost in a doleful wail of wind. It also seemed to her that the cold, which was already almost insupportable, suddenly increased, as it not infrequently does in that country before the snow. Then a white powder was whirled into her face, filling her eyes and searing the skin, while the horses were plunging at a gallop thru a filmy haze, and Winston, whitened all over, leaned forward with lowered head hurling hoarse encouragement at them. His voice reached her fitfully through the roar of wind, until sight and hearing were lost alike as the white haze closed about them, and it was not until the wild gust had passed that she heard him again. He was apparently shouting, "Come nearer."

Maud Barrington was not sure whether she obeyed him or he seized and drew her towards him. She, however, felt the furs piled high about her neck and that there was an arm round her shoulder, and for a moment was sensible of an almost overwhelming revulsion from the contact. She was proud and very dainty, and fancied she knew what this man had been, while now she was drawn in to his side, and felt her chilled blood respond to the warmth of his body. Indeed she grew suddenly hot to the neck, and felt that henceforward she could never forgive him or herself, but the mood passed almost as swiftly, for again the awful blast shrieked about them and she only remembered her companion's humanity, as the differences of sex and character vanished under that destroying cold. They were no longer man and woman, but only beings of flesh and blood, clinging desperately to the life that was in them, for the first rush of the Western snowstorm has more than a physical effect, and man exposed to its fury loses

all but his animal instincts in the primitive struggle with the elements.

Then, while the snow folded them closely in its white embrace during a lull, the girl recovered herself, and her strained voice was faintly audible.

"This is my fault. Why don't you tell me so?" she said.

A hoarse laugh seemed to issue from the whitened object beside her, and she was drawn closer to it again. "We needn't go into that just now. You have one thing to do, and that is to keep warm."

One of the horses stumbled, the grasp that was around her became relaxed and she heard the swish of the whip followed by hoarse expletives, and did not resent it. The man, it seemed, was fighting for her life as well as his own, and even brutal virility was necessary. After that, there was a space of oblivion while the storm raged about them, until, when the wind fell a trifle, it became evident that the horses had left the trail.

"You are off the track, and will never make the Grange unless you find it," she said.

Winston seemed to nod. "We are not going there," he said, and if he added anything, it was lost in the scream of a returning gust.

Again Maud Barrington's reason asserted itself, and remembering the man's history she became sensible of a curious dismay, but it also passed and left her with the vague realization that he and she were actuated alike only by the desire to escape extinction. Presently she became sensible that the sleigh had stopped beside a formless mound of white and the man was shaking her.

"Hold those furs about you while I lift you down," he said.

She did his bidding, and did not shrink when she felt his arms about her, while next moment she was standing knee-deep in the snow and the man shouting something she did not catch. Team and sleigh seemed to vanish, and she saw her companion dimly for a moment before he was lost in the sliding whiteness, too. Then a horrible fear came upon her.

It seemed a very long while before he reappeared, and thrust her thru what seemed to be a door. Then there was another waiting before the light of a lamp blinked out, and she saw that she was standing in a little log-walled room with bare floor and a few trusses of straw in a corner. There was also a rusty stove, and a very small pile of billets beside it. Winston, who had closed the door, stood looking at them with a curious expression.

"Where is the team?" she gasped. "Heading for a birch bluff or Silverdale, tho I scarcely think they will get there," said the man. "I have never stopped here, and it wasn't astonishing they fancied the place a pile of snow. While I was getting the furs out, they slipped from me."

Miss Barrington now knew where they were. The shanty was used by the remoter settlers as a half-way house where they slept occasionally on their long journey to the railroad, and as there was a birch bluff not far away, it was the rule that whoever occupied it should replace the fuel he had consumed. The last man had, however, not been liberal.

"But what are we to do?" she asked, with a little gasp of dismay. "Stay here until the morning," said

Winston quietly. "Unfortunately, I can't even spare you my company. The stable has fallen in, and it would be death to stand outside, you see. In the meanwhile, pull out some of the straw and put it in the stove."

"Can you not do that?" asked Miss Barrington, feeling that she must commence at once, if she was to keep this man at a befitting distance.

Winston laughed. "Oh, yes, but you will freeze if you stand still, and these billets require splitting. Still, if you have special objections to doing what I ask you, you can walk up and down rapidly."

The girl glanced at him a moment and then lowered her eyes. "Of course I was wrong. Do you wish to hear that I am sorry?"

Winston, answering nothing, swung an axe round his head, and the girl, kneeling beside the stove, noticed the sinewy suppleness of his frame and the precision with which the heavy blade cleft the billets. The axe, she knew, is by no means an easy tool to handle. At last the red flame crackled, and tho she had not intended the question to be malicious, there was a faint trace of irony in her voice as she asked, "Is there any other thing you wish me to do?"

Winston flung two bundles of straw down beside the stove, and stood looking at her gravely. "Yes," he said. "I want you to sit down and let me wrap this sleigh robe about you."

The girl submitted, and did not shrink visibly from his touch, when he drew the fur robe about her shoulders and packed the end of it round her feet. Still, there was a faint wariness in her face, and she was grateful for his unconcernedness.

"Fate or fortune has placed me in charge of you until tomorrow, and if the position is distasteful to you, it is not my fault," he said. "Still, I feel the responsibility, and it would be a little less difficult if you would accept the fact tacitly."

Maud Barrington would not have shivered if she could have avoided it, but the cold was too great for her, and she did not know whether she was vexed or pleased at the gleam of compassion in the man's gray eyes. It was more eloquent than anything of the kind she had ever seen, but it had gone, and he was only quietly deferent, when she glanced at him again.

"I will endeavor to be good," she said, and then flushed with annoyance at the adjective. Half-dazed by the cold as she was, she could not think of a more suitable one. Winston, however, retained his gravity.

"Now, Macdonald gave you no supper, and he has dinner at noon," he said. "I brought some eatables along, and you must make the best meal you can."

He opened a packet, and laid it with a little silver flask upon her knee.

"I cannot eat all this—and it is raw spirit," said Maud Barrington.

Winston laughed. "Are you not forgetting your promise? Still, we will melt a little snow into the cup."

An icy gust swept in when he opened the door, and it was only by a strenuous effort he closed it again, while when he came back panting with the top of the flask a little color crept into Maud Barrington's face. "I am sorry," she said. "That at least is your due."

"I really don't want my due," said Winston, with a deprecatory gesture, as he laid the silver cup upon the stove. "Can't we forget we are not exactly friends, just for tonight? If so, you will drink this and commence at once on the provisions—to please me."

Maud Barrington was glad of the reviving draught, for she was very cold,

but presently she held out the packet. "One really cannot eat many crackers at once, will you help me?"

Winston laughed as he took one of the biscuits. "If I had expected any one would share my meal, I would have provided a better one. Still, I have been glad to feast upon more unappetizing things occasionally."

"When were you unfortunate?" said the girl.

Winston smiled somewhat dryly. "I was unfortunate for six years on end."

He was aware of the blunder when he had spoken, but Maud Barrington appeared to be looking at the flask thoughtfully.

"The design is very pretty," she said. "You got it in England?"

The man knew that it was the name P. Winston his companion's eyes rested on, but his face was expressionless. "Yes," he said. "It is one of the things they make for presentation in the old country."

Maud Barrington noticed the absence of any attempt at explanation, and having considerable pride of her own, was sensible of a faint approval. "You are making slow progress," she said, with a slight but perceptible difference in her tone. "Now, you can have eaten nothing since breakfast."

Winston said nothing, but by and by poured a little of the spirit into a rusty can, and the girl, who understood why he did so, felt that it covered several of his offenses. "Now," she said graciously, "you may smoke if you wish to."

Winston pointed to the few billets left and shook his head. "I'm afraid I must get more wood."

The roar of wind almost drowned his voice, and the birch logs seemed to tremble under the impact of the blast, while Maud Barrington shivered as she asked, "Is it safe?"

"It is necessary," said Winston, with the little laugh she had already found reassuring.

He had gone out in another minute, and the girl felt curiously lonely as she remembered stories of men who had left their homesteads during a blizzard to see to the safety of the horses in a neighboring stable, and were found afterwards as still as the snow that covered them. Maud Barrington was not unduly timorous, but the roar of that awful icy gale would have stricken dismay into the hearts of most men, and she found herself glancing with feverish impatience at a diminutive gold watch and wondering whether the cold had retarded its progress. Ten minutes passed very slowly, lengthened to twenty more slowly still, and then it flashed upon her that there was at least something she could do, and scraping up a little of the snow that sifted in, she melted it in the can. Then she set the flask upon the stove, and once more listened for the man's footsteps very eagerly.

She did not hear them, but at last the door swung open, and carrying a load of birch branches Winston staggered in. He dropped them, strove to close the door and failed, then leaned against it, gasping, with a livid face, for there are few men who can withstand the cold of a snow-laden gale at forty degrees below.

How Maud Barrington closed the door she did not know, but it was with a little imperious gesture she turned to the man. "Shake those furs at once," she said, and drawing him towards the stove held up the steaming cup. "Now sit there, and drink it."

Winston stooped and reached out for the can, but the girl swept it off the stove. "Oh, I know the silver was for me," she said. "Still, is this a time

for trifles such as that?"

Worn out by a very grim struggle, Winston did as he was bidden, and looked up with a twinkle in his eyes, when with the faintest trace of color in her cheeks the girl sat down close to him and drew part of the fur robe about him.

"I really believe you were a little pleased to see me come back just now," he said.

"Was that quite necessary?" asked Maud Barrington. "Still, I was."

Winston made a little deprecatory gesture. "Of course," he said. "Now, we can resume our former footing to-morrow, but in the meanwhile I would like to know why you are so hard upon me, Miss Barrington, because I really have not done much harm to any one at Silverdale. Your aunt,"—and he made a little respectful inclination of his head which pleased the girl—"is at least giving me a fair trial."

"It is difficult to tell you—but it was your own doing," said Maud Barrington. "At the beginning you prejudiced us when you told us you could only play cards indifferently. It was so unnecessary, and we knew a good deal about you!"

"Well," said Winston quietly, "I have only my word to offer, and I wonder if you will believe me now, but I don't think I ever won five dollars at cards in my life."

Maud Barrington watched him closely, but his tone carried conviction, and again she was glad that he attempted no explanation. "I am quite willing to take it," she said. "Still, you can understand—"

"Yes," said Winston. "It puts a strain upon your faith, but some day I may be able to make a good deal that puzzles you quite clear."

Maud Barrington glanced at the flask. "I wonder if that is connected with the explanation, but I will wait. Now, you have not lighted your cigar."

Winston understood that the topic was dismissed, and sat thoughtfully still while the girl nestled against the birch logs close beside him under the same furs, for the wind went thru the building and the cold was unbearable a few feet from the stove. The birch rafters shook above their heads, and every now and then it seemed that a roaring gust would lift the roof from them. Still the stove glowed and snapped, and close about it there was a drowsy heat, while presently the girl's eyes grew heavy. Finally, for there are few who can resist the desire for sleep in the cold of the Northwest, her head sank back, and Winston, rising very slowly, held his breath as he piled the furs about her. That done, he stooped and looked down upon her while the blood crept to his face. Maud Barrington lay very still, the long dark lashes resting on her cold tinted cheek, and the pensive serenity of her face was even more marked in her sleep. Then he turned away feeling like one who had committed a desecration, knowing that he had looked too long already upon the sleeping girl who believed he had been an outcast and yet had taken his worst for it was borne in upon him that a time would come when he would try her faith even more severely. Moving softly, he paced up and down the room.

Winston afterwards wondered how many miles he had walked that night, for tho the loghouse was not longer than thirty feet, the cold bit deep; but at last he heard a sigh as he glanced towards the stove, and immediately swung round again. When he next turned, Miss Barrington stood upright, a little flushed in face but otherwise very calm, and the man stood still, shivering in spite of his efforts and blue with cold. The wind had fallen, but the

sting of the frost that followed it made itself felt beside the stove.

"You had only your deerskin jacket—and you let me sleep under all the furs," she said.

Winston shook his head, and hoped he did not look as guilty as he felt, when he remembered that it must have been evident to his companion that the furs did not get into the position they had occupied themselves.

"I only fancied you were a trifle drowsy and not inclined to talk," he said, with an absence of concern, for which Miss Barrington, who did not believe him, felt grateful. "You see,"—and the inspiration was a trifle too evident—"I was too sleepy to notice anything myself. Still, I am glad you are awake now, because I must make my way to the Grange."

"But the snow will be ever so deep, and I could not come," said Maud Barrington.

Winston shook his head. "I'm afraid you must stay here, but I will be back with Colonel Barrington in a few hours at latest."

The girl deemed it advisable to hide her consternation. "But you might not find the trail," she said. "The ravine would lead you to Graham's homestead."

"Still," said Winston slowly, "I'm going to the Grange."

Then Maud Barrington remembered, and glanced aside from him. It was evident this man thought of everything, and she made no answer when Winston, who thrust more billets into the stove, turned to her with a little smile.

"I think we need remember nothing when we meet again, beyond the fact that you will give me a chance of showing that the Lance Courthorne whose fame you know has ceased to exist."

Then he went out, and the girl stood with flushed cheeks looking down at the furs he had left behind him.

CHAPTER XI.

Maud Barrington's Promise.

Daylight had not broken across the prairie when, floundering thru a foot of dusty snow, Winston reached the Grange. He was aching from fatigue and cold, and the deerskin jacket stood out from his numbed body stiff with frost, when, leaning heavily on a table, he awaited Colonel Barrington. The latter, on entering, stared at him, and then flung open a cupboard and poured out a glass of wine.

"Drink that before you talk. You look half-dead," he said.

Winston shook his head. "Perhaps you had better hear me first."

Barrington thrust the glass upon him. "I could make nothing of what you told me while you speak like that. Drink it, and then sit still until you get used to the different temperature."

Winston drained his glass, and sank limply into a chair. As yet his face was colorless, tho his chilled flesh tingled horribly as the blood once more crept into the surface tissues. Then he fixed his eyes upon his host as he told his story. Barrington stood very straight watching his visitor, but his face was drawn, for the resolution which supported him thru the day was less noticeable in the early morning, and it was evident now at least that he was an old man carrying a heavy load of anxiety. Still, as the story proceeded, a little blood crept into his cheeks, while Winston guessed that he found it difficult to retain his grim immobility.

"I am to understand that an attempt to reach the Grange thru the snow would have been perilous?" he said.

"Yes," said Winston quietly.

(To be continued.)

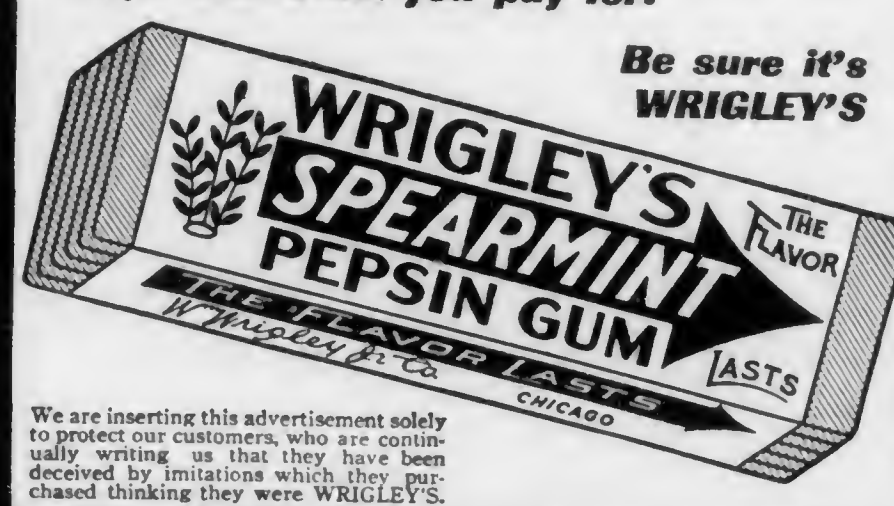
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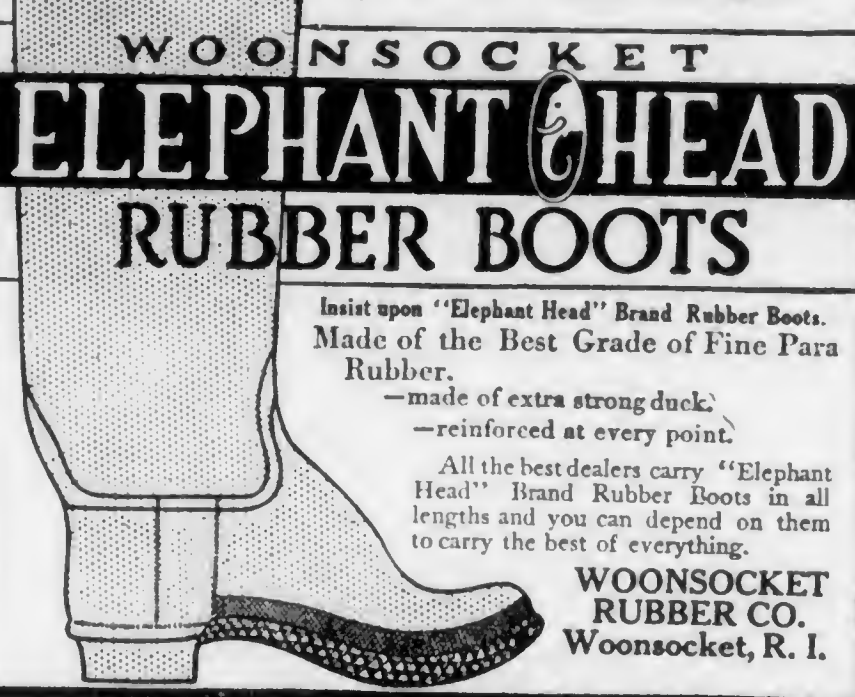
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PENNSYLVANIA FARMER

AGRICULTURE THE KEYSTONE OF NATIONAL PROSPERITY



PUBLISHED WEEKLY

PHILADELPHIA, PA., SATURDAY, NOVEMBER 29,

2 YEARS FOR \$1.00.

Second International Egg-Laying Contest

A White Leghorn pullet in the second international egg-laying contest at Connecticut Agricultural College, "Baroness IV" by name, took the individual egg-laying title away from "Lady Showyou," last year's winner at the Missouri contest, by laying 282 eggs in the year just closed as against "Lady Showyou's" 281. The title thus goes to England, for "Baroness IV" is in the pen of Thomas Barron, Catforth, England, but the bird and her companions in the pen of five remain to be added to this country's stock.

This pen of White Leghorns took first place in total production with a noteworthy record, 1,190 eggs in the year, or an average of 238 per individual. Each bird laid over 200 eggs. With her sister, who took third place for single layers, with 262 eggs to her credit, "Baroness IV" forms the best pair in the contest, with 544 eggs. She laid 2 eggs the first week and dropped below 4 per week but twice after that, laying but 3 in the seventh and 2 in the 50th. She laid 10 eggs in the last fifteen days. Only nine times did she lay 7 eggs a week and only twice for two weeks in succession.

The winning pen started in the lead with 11 eggs the first week and was never even threatened for the leadership. From the start to the 48th week every bird in it laid each week except No. 3, which was idle from the 8th to 12th weeks inclusive. It was a wonderful year, but no fluke, for this strain finished fourth in the first contest with but four birds and is winning the Missouri contest this year with a pen of ten birds.

Records by wholesale were surpassed in this second contest. A total of 77,916 eggs were laid, an average of 156 per layer for the five hundred. No such figure has been made outside Australia, where laying contests started. Some birds died, but every pen finished with five birds. Sixty-seven individuals laid 200 eggs or better.

The best American bird is a White Leghorn in the pen of Burton E. Moore, Winsted, Conn., which took second place in the five hundred, with 267 eggs. Fourth place went to England again, one of Edward Cam's Houghton, England, White Leghorns finishing with 256, but fifth place comes back to the United States.

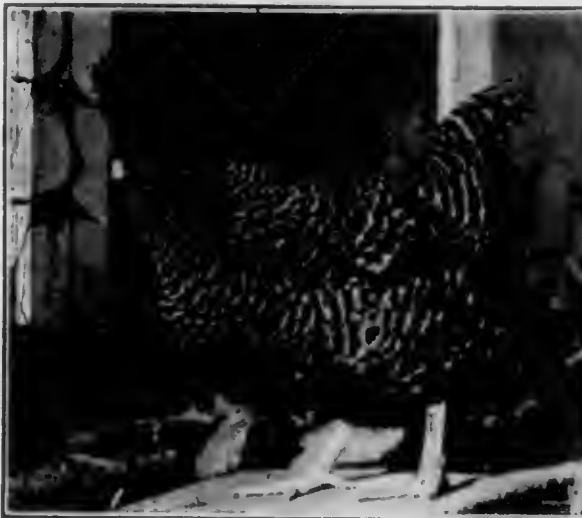


THE CONNECTICUT LEGHORN THAT LED ALL AMERICAN ENTRIES IN INTERNATIONAL EGG LAYING CONTEST.

States with a score of 253 for a White Leghorn in the pen of O. A. Foster, Santa Cruz, Cal.

The second best pair in the affair is the leading American pair, two Rhode Island Reds, belonging to the quintette from Colonial Farm, Temple, N. H., which laid 245 and 248 eggs, respectively, 493 together. The former laid an egg a day during August.

There is occasion for pride in the leading American pen, which finished third in the hundred, the White Leghorns of W. L. Sleeper, York, Pa., which laid 1,029 eggs. Second place went to the Cam Leghorns with 1,107. Remarkable layers, these Sleeper birds. Four months, April, May, July and August, they took first monthly honors, and in July tied with Barron's pen for third. In May they broke all records for a pen of five with 141 eggs, and in the 28th week tied the Colonial Farm Reds for high weekly



BARRED PLYMOUTH ROCK FROM WOODSIDE FARM, Philadelphia Co., Pa. Laid an egg per day for 61 days.

score for the affair with 33 eggs. This was equalled only by one other pen, the Foster Leghorns, in the 33rd week. Number 4 in the Sleeper pen laid 143 out of a possible 153 in these five months, and for eight straight weeks in May and June laid one egg per day as regularly as the sun rose. This record was bettered, however, by a Barred Plymouth Rock in the pen of Woodside Farm, West Philadelphia, which laid 61 eggs in 61 successive days.

After the three leaders other leading pens follow in this order: Fourth, Edward Cam, White Wyandottes, 1,009; fifth, O. A. Foster, White Leghorns, 997; sixth, Colonial Farm, Rhode Island Reds, 968; seventh, Frank Toulmin, Burnley, England, White Leghorns, 954; eighth, W. P. Canby, East Downingtown, Pa., White Leghorns, 952; ninth, Mrs. H. F. Haynes, Shoup, Idaho, White Wyandottes, 951; tenth, Burton E. Moore, White Leghorns, tied with Beulah Farm, Stoney Creek, Ontario, White Wyandottes, at 945; eleventh, Smith Brothers, Addingham, Pa., White Leghorns, 934; twelfth, F. A. Jones, Northumberland, Pa., White Leghorns, 928. This makes four English, one Canadian, and nine American pens, distributed from New Hampshire to California, in the first thirteen; and three White Wyandottes, one Rhode Island Red and the remainder White Leghorns.

The Beulah Farm pen did interesting work, the not laying as well as its predecessor, which came in second by but two eggs in 1912; its five layers showed up finely in the last weeks of the contest and pulled in the standing rapidly. All the White Wyandottes laid well in the final weeks, Cam's laying 26 eggs in the last eight days. Mrs. Haynes was another noteworthy five of that variety. Selected from but sixteen pullets, and when Mrs. Haynes had never seen other White Wyandottes than her own, they traveled forty or fifty miles on pack horse and stage to reach the railroad and began laying the day after they arrived at Storrs.

Immediately following the second contest the

third commenced and is now going on under the direction of the Department of Agriculture, thru the experiment station at Storrs, and Connecticut college jointly. The new pens contain ten birds instead of five, and three mongrel pens have been accepted for entry in order to compare their laying with that of the thoroughbreds. Also the college has entered ten pens of its own birds for interesting trials of different feeding formulas and methods.—J. Olin Howe, New Haven Co., Conn.

Significance of Contest.

Somewhat the trial of the breeds in the egg-laying contests has got a firm grip on me and I am wondering if the poultry keepers are looking below the surface and getting hold of the fundamental fact at the heart of the whole proposition. I find myself continually crying: "Oh, that I might have had the benefit of all this years ago when I was struggling to build up a strong laying strain," for the information would, it seems to me now, have been of the greatest possible value.

The contest of the breeds which has been going on at Storrs the past two years is far more than a simple test of the laying qualities of any one. It gets right down to the heart of the problem of breeding for service. All these years the main effort has seemed to be to establish breeds in accordance with the arbitrary standard of fancy points established by some association. More attention has been given to shading of feathers, set of tail, or number of spikes in the comb, than to the general form of the bird or the power for egg building. Here and there men have cut loose from these requirements and have bred and reared solely from the standpoint of utility, but their birds have had little place in the minds of the specialists. Weight, shape of body and set of head and neck, color and shading of feathers, shape and set of tail, size, shape and color of eye, wattles, earlobes and comb, these have been the essentials of the show ring.

Out of the rebellion of nature against arbitrary laws there have come the sports, so called, which have been the foundation for the multitude of new breeds springing up on every hand. Commencing with the Barred Plymouth Rocks in 1868 one may read the



BARONESS IV (ON RIGHT) AND HER SISTER. BEST PAIR IN CONTEST WITH 544 EGGS.

story of effort to fix peculiar characteristics and establish new breeds. The wonderful success attending these efforts only attests the readiness of nature to lend itself to improvement. Today the so-called American breeds are among the most popular in town and country, chiefly because of their superior meat qualities, and also for the constant effort demanded

(Continued on page 8.)

Farm Counselor Department



E. P. KESTER
Counselor on Soils to the State Department of Agriculture.
Thru this department Mr. Kester will discuss queries from Pennsylvania Farmer readers on soils, field crops and general farm practice. Address all queries to Pennsylvania Farmer, Philadelphia, Pa.

Permanent Pastures.

In my work as Farm Advisor, I scarcely ever visit a farm that I am not asked how pasture land may be treated so as to increase its productiveness. It seems strange that so little has been done along this line in an experimental way. The East has so much land that is not adapted to the plow, yet with proper management would be profitable as grazing land that farmers and experiment stations would do well to give the subject special attention. Most farmers make no pretense of applying the same good care to their pasture fields that they do to the other fields of the farm.

Examination of pasture fields usually shows a thin, scanty sod, indicating a scarcity of grass plants and a weak root system. This is brought about by lack of plant food, close cropping and deficient lime supply. When the farmer wishes to eradicate certain weeds, he keeps the tops of the plants cut off close to the ground, thus killing the plant eventually, root and all. He fails to realize that the same results follow in the pasture field when the cattle keep the grass plants nipped off close to the ground as fast as they appear. Because of this, a field will produce much more forage if it is divided into two parts and one part pastured while the other is growing, changing from one to the other every ten days or two weeks.

Turning the cattle on the field too early in the spring is ruinous also. Not only is the soil packed by tramping while too wet, but the young grass plants do not have a chance to get a start and increase their root development. There is very little food value in the early stages of the growth of any plant.

Grasses that are native or "natural" to the locality and soil are usually best adapted to permanent pasture. In the preparation of a field that can be tilled, too much care cannot be given to its preparation before seeding. It should be plowed deeply and harrowed thoroughly so as to pulverize and firm it, and also to kill the weeds as they start.

All the desirable grasses do best when liberally supplied with lime. Sufficient amounts of soluble plant food must also be available. Since a vigorous root system is necessary to maintain a continued growth, such treatment as will develop the best root growth must be given. At the Homestead Farm we have, for some years been top-dressing with commercial fertilizer to grow hay. We have noticed that the heaviest soil and much the greatest root system were developed when phosphoric acid is used in connection with other fertilizer. The amount of hay was nearly as great the first year when nitrate of soda alone, or nitrate and potash were used, but fell off at the second and third years' cutting. But when phosphoric acid was used in connection with these, or with stable manure, the yield was maintained and the sod and root growth were probably 50 percent better. This and other experiences and observations have convinced me that soluble phosphoric acid is quite as necessary in order to

get the best continued growth of grass, either for hay or for permanent pastures.

In localities where pulverized limestone can be procured at reasonable prices it is to be preferred for this purpose, as it can be applied in large quantities and used liberally as a top-dressing on old meadows without damage to the soil or grass.

After a good, uniform stand of grass has been secured by sowing plenty of seed of the proper mixture, it can be maintained for years as a profitable pasture if care is used in handling it and it is fed by top-dressing with manure and acidulated rock phosphate, applied in the fall and winter, or by using a fertilizer containing 6 percent each of nitrogen, phosphoric acid, and potash, applied early in the spring. A method similar to this is followed in England, as I was told recently by a farmer from that country.

Concerning the improvement of old pastures where re-seeding is not practicable nor possible, we have the following from Ohio: "I have a field of about twenty-five acres, mostly red clay and quite rough, that has been in pasture about thirty years, and it is becoming

badly infested with broom-sedge. In certain spots it is so dense that nothing else is growing. How can I eradicate this pest without plowing as the ground is so liable to wash when broken.—J. M. W."

Our correspondent does not say whether this field is limestone soil or not, or whether it is too wet for other grasses, as might be inferred from the fact that one species of sedge grass is growing. In the absence of this information we can but make a job at a remedy. In the first place, it will be necessary to dig out the broom-sedge if the field cannot be plowed and the grass eradicated by intensive and continued cultivation. Then apply a good top-dressing of lime. Use a sharp, spike-tooth harrow on the whole field until it is torn enough to receive and cover the grass seed. Then apply 200 lbs. of fertilizer as recommended above, harrowing again to cover the seed. I have known this method to rejuvenate an old pasture with complete success. I know of no way to eradicate the broom grass except by hand work in this instance, and then make the soil sweet by liming so that other grasses will grow.—R. P. K.

These are illustrations of what I mean; making the most out of the farm, and then sensibly being as nearly satisfied with the results. The foreigner who prospers where Americans fail, who runs out the native and takes possession of the land himself, wins by this very method. He gets all out of the land he can make it produce, and then he lives on what it gives him. And don't forget that he lives well; or if he does not, and is mildly conscious of the market price of a field of onions or celery or garden truck and feeds himself the refuse, he doesn't make the mistake of taking that money to buy luxuries with. That money is laid away until there is enough to add another acre to his holdings.

Where the Dollar Standard Fails.

By CHARLES H. DARLINGTON, Chester Co., Pa.

In the city one works for dollars with which to buy comfort. On the farm one works for comfort direct. This difference reaches so deep that only a remarkable man can, after thirty years of city habits of thought, make even a passable success on a farm. The man who counts dollars at every turn can not resist selling and selling and selling; and in time runs out his soil.

If one could supply every want from the products of his place it would grow more fertile year by year. Everything grown on the land betters the land if returned to it. Clovers are better than weeds, but weeds are better than nothing. Everything produced on the land and sold off helps by so much to deplete

perhaps he bought the seed. If he had raised his seed his outlay was only the seeding. Now the proper point of view is stated above; that whatever is not taken off the farm is there yet, and enriches the farm. The land is his proper bank, and pays better interest than any other depository on all that is put to credit there. That clover might as much as double a following wheat yield, or taking it another way, give him the same wheat yield on half the area, lessening the labor outlay for the wheat by half. And its benefits would not end with one wheat crop.

Every man cannot afford to plow under such crops, unfortunately. There are taxes to pay, and clothes to be



COMBINATION SPRINGHOUSE AND SMOKEHOUSE IN LANCASTER CO., PA.
Built almost 100 years ago and still in good state of preservation. Once a common necessity on eastern Pennsylvania farms, but now almost a relic.

the fertility. Every green thing plowed under helps to make humus, and humus is the sub-base of success; more vitally necessary than live stock or crops or phosphates or fertilizers of any sort. Its acids make soluble minerals needed for any crop, and its substance forms a sponge that holds ammonia and water, subject to the demand of the rootlets.

To illustrate my point: A city-bred farmer with a lush field of clover ready for the mower could not get his mind off two tons of fine hay at \$15 a ton. To him it would be criminal waste to "throw it away" by plowing it under. The cost of that crop was a couple of hours work with a clover seeder—and

him and his escape is to do as little of that sort of business as possible. He can raise apples and pears and plums and cherries and such like, and they will fully take the place of bananas and oranges and pineapples in his bill of fare. He can grow walnuts and shell barks and—perhaps—chestnuts, and peanuts, if he will, and they will supply all that he can buy in almonds and Brazil nuts. Popped corn is as whole some, nourishing and palatable in a saucer of cream on the breakfast table as pulled rice. A plump pullet goes as far and tastes as good as the same weight of sirloin steak.

These are illustrations of what I mean; making the most out of the farm, and then sensibly being as nearly satisfied with the results. The foreigner who prospers where Americans fail, who runs out the native and takes possession of the land himself, wins by this very method. He gets all out of the land he can make it produce, and then he lives on what it gives him. And don't forget that he lives well; or if he does not, and is mildly conscious of the market price of a field of onions or celery or garden truck and feeds himself the refuse, he doesn't make the mistake of taking that money to buy luxuries with. That money is laid away until there is enough to add another acre to his holdings.

Since some money is essential, we cannot live entirely within the farm. Something must be sold every year. Happy is that farmer who plans one money crop and only one. On a well regulated farm all products interweave—and balance. There are crops enough for the stock, stock enough to consume the crops; manure enough to keep up fertility, and food enough for the family. And beyond this, there is one "something" that is fed and nurtured and cared for to be sent to market. All the rest centres about and builds up toward this crop. It is the net money result of the year's work. But it should be one thing, definite, not any chance thing that will bring in a dollar.

It is a misfortune, economically speaking, that there must be this money crop, for it is a loss to the ideal farm. Every ounce of mineral matter so sold must be bought back at a higher price and restored to the soil; yet in our day there must be a money crop. We can not get along without money. Our ancestors came much nearer to it. They raised their mutton and wool, spun and wove the yarn, tanned their own hides, and made their own shoes. A money crop being a necessary evil, it should be narrowed down to definite lines. Out side those lines the question of dollar value should never be allowed to enter the mind. A pullet, a bushel of corn, or a head of cauliflower costs a certain amount of labor and thought. It costs no more when the market offers \$10 for it; no less when only a couple of cents. But if we sell milk and buy butter, sell wheat and buy bread of the baker, sell corn and buy beefsteak, the influence of market prices cannot be escaped. We narrow our lives and our luxuries. The high cost of living invades our homes.

There are farmers plenty who have gotten beyond the necessity for sharply considering these things; who can afford to market extensive crops and buy what their fancy prompts. There is no quarrel with these. And yet there is no other ladder to success than working the farm for all it can be made to produce, and limiting one's wants as nearly as one will to those products. One must make his own pork, regardless of the state of the hog market; fill the fruit jars, regardless of the market's demand for fresh fruit, and when he has before him on the table a savory dish of ham and eggs, flanked with a pot of apple butter, a plate of home-made bread,

and a pat of golden, uncolored dairy butter from clover-fed cows, a sure way to spoil the appetite is to reckon up what these would sell for at the Waldorf Astoria, or the Bellevue-Stratford.

It is evident, then, that the city-bred man who starts out to show the old-time farmer how to make money suffers under an almost disqualifying handicap. He may be posted on all the latest theories of agricultural science; he may have seen things done until they present no problems; he may have energy and brains, and work wisely early and late; and yet he has the dollar in his mind. If he keeps books and rates his time at a dollar a day, there are a myriad of things he will not do because the labor cost outweighs the probable returns. If

he rates himself at \$5 a day—and hosts of city men draw that and more—he will do practically nothing, and at length abandon his farm. How long, think you, will it take for the man bred to dollars to get the thought of them out of his system? When he can say, "So much work, so much comfort;" when he can plow under \$30 worth of clover without a regret and spread \$10 straw thickly over his fields; when he can feel that all he puts into the ground is deposited in bank; then he has a chance for success. He will not stack up dollars in a bank, but every year he will produce what he wants to produce on less land, and with less labor, and with a safer certainty of a resulting crop.

soil than are clover and alfalfa. Incultation is very essential. The seed bed should be prepared as for corn. It will give the best results when planted in rows and cultivated as you would corn. They should have from two to four cultivations during the early part of their growth. All cultivation should be shallow and level. Soy beans should be sown just after the crop has been planted, but they may usually be sown with good results as late as June 20th.

For grain or ensilage, sow in rows from 28 to 36 inches apart, using 3 pecks of seed per acre. When sown for hay it will produce a finer hay when sown broadcast at the rate of 6 pecks per acre. Do not sow broadcast unless the weeds have been killed out by early plowing and two or three cultivations during a period of about six weeks. The oats "feed" of an ordinary grain drill can be used for planting by stopping up some of the runs. As a rule soy beans should not be planted deeper than one inch.

Harvesting.

Soy beans are a very desirable soiling crop for August and September. Being high in protein, they may be fed to



OLD-TYPE HOUSE REMODELED. HOME OF A. STAUB, CUMBERLAND CO., N. J.

and humus returned to the soil in each case will be about the same. When cut for hay and only the stubble is turned under, the clover returns about three times as much nitrogen as soy beans. Soy beans, however, grow more rapidly and may be sown late in spring, even

Silage.

Cut after the beans are well formed, but before the leaves begin to drop. This will be several days later than the



AN EXAMPLE OF DISFIGURED FARM BUILDINGS TOO COMMON IN EASTERN STATES.

after some other crop has failed. They will produce a crop here in about 100 days. They are excellent for seeding in orchards in July after the clean cultivation has ceased. They are most profitable in a four-year rotation, such as corn, oats, rye, and clover, and fit well into such rotation.

Culture.

A good corn soil will usually produce a good crop of soy beans. They are nitrogen gatherers, since they take up free nitrogen from the air and store it

time to cut for hay. The time to cut will also be governed by the time when the corn is ready. The best implement to use in cutting soy beans for the silo is the ordinary self binder or self-rake reaper. Cut when the hay pods begin to form. This saves about all the leaves and the stem is less tough than later. Cut with the mowing machine or mowing machine having side delivery attachment. Let the vines lie in the swath long enough so that they are well wilted, but not long enough so that they

become brittle and break. This takes from 24 to 48 hours, depending upon the weather. Then rake into cocks. Open cocks and dry inside before hauling to the barn. Handle carefully so as not to break off the leaves. Do not pack the grain or hay tightly into the barn unless you are certain that it is well cured.

Grain.

Cut when the pods begin to turn yellow or black, or when nearly matured. If the seed is very ripe cut while the plants are still damp from dew in the morning. If the fall is very dry, cut for seed as soon as the pods are changing color; if wet, wait until most of the leaves have dropped. If the ground is wet when ready to cut for seed, wait until it dries, or until it freezes, if necessary. After the beans are well formed in the pod, even freezing will not injure their germinating power or prevent their maturing. All the refuse from flailing and threshing has a feeding value and even the coarse stems are greedily eaten, especially by steers and sheep. If you intend to feed the entire crop, threshing is unnecessary. If grain alone is fed, remember that it is equal to oil meal and feed sparingly. Soy beans cut for seed require about the same handling in the field as soy beans cut for hay. The hay cocks must be turned from time to time in order to prevent the beans from lying on the ground too long, causing them to mold.

Threshing.

Thresh by taking out the concaves or putting wooden blocks in their places and run slowly. Flailing works well with a small quantity. In threshing, the beans should be in the "tough stage" to prevent breaking. In flailing, the pods should be dry and brittle. Cure the seed by sacking in coarse burlap sacks and hanging where the air currents can reach it, or it can be cured on the barn floor, where it should not be spread too thick. It should also be shoveled over a few times. After it is once carefully cured, it can be cleaned and placed in sacks or bins.

Varieties.

For grain, choose one of the "early" or medium varieties, such as Ito Saa. Black varieties are said to be most hardy. Among the most prolific of the black varieties are Peking, Wilson and Sable. Of the yellow varieties Flabrant and Hollybrook are very satisfactory. For silage, use such varieties as the "Medium Green," "Medium Early Green," and "Early Green." For hay, use "Mammoth Yellow," and "Hollybrook," of the coarse varieties, or Wilson and Sable, of the finer-stemmed kinds. The Mammoth Yellow is one of the cheapest and best varieties for plowing under to improve the soil. This costs from \$2 to \$3 per bushel. Some varieties cost as much as \$4.50 per bushel. Seed may be ordered thru your local dealer or direct from growers.

CREAMERY ORGANIZATION AND MANAGEMENT.

Circular No. 23 of the Montana Experiment Station, dealing with "Creamery Organization and Management," outlines some of the causes contributing to failure in the creamery industry, suggests some practical organization and management plans and closes with some marketing recommendations.

Among the suggestions to butter-makers and managers, we note the following:

- (1) Study your patrons' problems so as to be able to advise intelligently.
- (2) Read government bulletins on dairying and call the attention of your patrons to the good ones.
- (3) Enter every scoring contest possible so as to compare your butter with that from other creameries and states.
- (4) Grade cream according to quality and pay a premium for the highest quality.

The Bulletin is mailed from Bozeman, Montana.

Horticulture

STORING ONIONS.

In order to keep onions successfully thru the winter certain definite conditions must be provided. The onion bulb is not the fruit of the onion plant, but only enlarged portions of the bases of the leaves, and therefore, under favorable conditions, growth is immediately resumed. It is useless, however, to attempt to keep thru the winter onions which have not been thoroughly ripened and cured. The onion, when in a perfect condition for storage, is hard and solid, with the neck dried down to the bulb itself. "Thick necks," or scallions, should never be stored.

After the onions have been pulled and have been lying in windrows in the field until well dried, they are topped and placed in crates or bags to cure. But in order to secure bulbs that are clean and bright, they should be cured in an open shed or slat crib.

For winter storage, onions must have a low temperature—just a few degrees above freezing, but never actually freezing—dryness and plenty of ventilation. Large quantities should never be stored together, as in a large bin. The standard onion crate is generally used to contain the onions and the crates are stacked with alley-ways between to provide for circulation of air.

The onion storage houses are made perfectly tight by means of a double construction with felt or paper lining. The floor should have cracks between the boards or planks to permit of bottom ventilation. There must also be ventilator openings at the ridge of the roof. During the coldest weather a small stove will be necessary to prevent the temperature dropping below the freezing point. Freezing itself does not seriously damage the bulbs, but the alternate freezing and thawing. When other storage facilities are not available and only a small quantity are to be stored, the bulbs may be spread out in a loft and allowed to freeze. When they have frozen solid, cover them with hay or straw so as to prevent alternate thawing and freezing. In this way they will remain in a frozen condition until spring, when they should be thawed out gradually and used or placed on the market.

Onion sets require precisely the same conditions for successful storage as the full grown bulbs. They should, however, be spread out thinly in trays or shelves so that they will not heat, become damp and sprout. If sets are stored in a frozen condition they are more or less injured and are more likely to sprout earlier in the spring. Therefore, it is best to store in warehouses where the temperature and other conditions necessary for winter storage can best be maintained.—J. R. Bechter, State College, Pa.

THE SUMMER APPLE AS A MONEY MAKER.

All of the intense interest which apple production has attracted within the last few years seems to have centered around a few varieties of fall and winter apples. Furthermore these have been divided into groups according to geographical districts in which the business has settled down to the production of a few varieties which have proved themselves commercially profitable. In Pennsylvania the Stayman Winesap, York Imperial, Rome, Grimes Golden and a few others have been grown to such perfection that the respective localities in which they have been grown have become known in fruit circles. In

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New York State the King, Baldwin, Northern Spy, Hubbardston and McIntosh occupy a similar place. Men who are planning new orchards recognize the fact that these varieties have proven very profitable and follow in the footsteps of their predecessors by planting the same varieties.

This system has established the fruit business along conventional lines and has resulted in many good varieties being overlooked, and many little ways of diversifying the industry have been disregarded. There are few localities in which fruit growing has been developed into an industry where summer apples would not pay as well or better

standard varieties received. The trees began to bear in their third year and every year since they have produced full crops of 75 percent fancy fruit. This fruit is packed in small hampers holding 3 bushel and each apple is wrapped in a paper bearing the trade mark of the orchard. It is hauled into town and sold to the fruit and grocery stores at about \$1.10 per hamper, or \$2.20 per bushel, or \$6.60 per barrel, which is a price that few of us are realizing with the fall and winter varieties. The success of this orchard has been due to the care given the trees, resulting in a large proportion of fancy fruit, a good market near at hand, and

have to be sold as No. 2 grade. The best style of picking basket for the tender apples is the bushel basket. This is rigid and the apples have no chance to rub while the picker is at work. The fruit is gently poured from these baskets on to sorting tables in the orchard, sorted, and packed into the hampers, or in some cases boxes, where the consumer wants more than is in one hamper. The hampers are then sent to the market immediately and the fruit has no chance to show harvesting marks.

Where this sort of treatment is given and the necessary factors enumerated are found, the growing of summer apples can be made a feature of profit and advantage on many orchards.—L. Wayne Army, Cornell University.

PROMISING NEW FRUITS.

As the business aspects of fruit growing receive more definite recognition varieties will be planted more and more to meet particular conditions and for special rather than for general purposes, states the Agricultural Department Year Book in discussing some promising new fruits. For instance, under present conditions one of the most important requirements of a winter apple in many sections is that it have good cold-storage qualities. Summer apples were, for a long period, a minor commercial consideration, but for the past ten or fifteen years an important demand for them has developed in the eastern markets, which has greatly stimulated the planting of early apple varieties in many sections where formerly they were little valued.

As the market demand for newer fruits increases and their culture becomes of greater commercial importance, new and better varieties or varieties better adapted to commercial needs will probably be developed. In the case of such fruits as the avocado and the mango, the commercial culture of which is comparatively new, there are as yet but few varieties in cultivation in this country.

The Eastman apple, now being cultivated in the upper Mississippi Valley, was planted and developed for the particular needs of this region, which is characterized by long, dry, cold winters. It has proved to be a remarkably early, regular, and prolific bearer.

Until recent years planters of pecan trees have been greatly handicapped in the selection of varieties because of the limited number of choice sorts which have shown special adaptability to particular localities. At present there are about fifty sorts of sufficient merit to make it possible to select varieties reasonably certain to succeed in any pecan-growing locality. Among these are the Burkett, Major, Owens, Warriek, and Havens.

The Burkett produces from 50 to 55 nuts per pound and is of a roundish, oblong form; the Major produces from 85 to 90 nuts per pound and has a roundish, oblong form, tapering slightly at the base; the Owens averages from 60 to 65 nuts per pound, and has an oblong, oval form, with tapering base and apex; the Warriek is rather below the medium in size, averages from 75 to 80 nuts per pound, has an oblong form with a rather short apex but longer base; and the Havens variety is medium to large sized, averaging from 65 to 70 nuts per pound, and has an oblong form with sharp base and blunt apex.—Government Press Bulletin.

SAVE THE PEACH PITS.

There is a large scope of territory in which peaches, tho not a profitable crop to depend upon for cash, may supply the family liberally, with almost no ex-



AN ONION CURING CRIB.

than fall or winter apples, and yet the markets every year are crying for summer apples and they are forced to be content with the poor specimens that are hauled in in potato sacks by the nearby farmers, who are well paid for their wormy products. To the man who devotes a little of his orchard attention to the production of fancy summer apples there awaits good profits and also advantages in his orchard management. There are certain factors which are essential to the profitable production of summer apples and they are chiefly nearness to a good market, and the ability to put fruit up in fancy style. The growing of summer apples under favorable management is well illustrated on the farm of a commercial fruit grower in Erie county, Pennsylvania.



WELL-BUILT AND EFFICIENT ONION STORAGE HOUSE.

who has, within the last few years, made a good reputation and a good profit in the combination of fancy summer apples and the regular assortment of fall and winter varieties. He planted his orchard with Yellow Transparent fillers when it was first set, and when these trees came into bearing, he marketed the fruit as fancy fruit on the local market, which was a town of about fifty thousand inhabitants, and only two miles distant. The profit from this enterprise were so satisfactory that he planted a block of Yellow Transparent and Red Astrachan on a 20-acre field and gave that little orchard all the care that the big one of the

common to all yellow apples, viz: it is easily injured by rough handling. It is necessary, therefore, to use especial care in harvesting them. The Erie county grower has found by bitter experience that it is fatal to the ready sale of the apple to allow it to be picked in the picking bags which are so often used in the harvesting of winter apples. While the picker is at work these bags are continually swinging with every movement that he makes and the apples are thus rubbing against one another. Since the yellow apples show every bruise almost as soon as it is made this sort of treatment soon makes them unfit for market and they

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pense. Where frosts are apt to catch the swelling buds at least one year out of every two, the high-grade trees of the nurseryman will not appeal to the average farmer. Yet many bushels of excellent fruit may be his in the favorable years by exercising a little forethought.

Peach trees mature rapidly, and it takes only a few years from the time a pit is planted until the tree is of bearing size. The fruit does not come true from planting, tho as a rule which so nearly applies that it may serve as general, a pit from a peach of high quality will yield a better quality of fruit. The largest peach we ever saw was the product of a seedling from a Crawford's Early. It proved to be a very late variety, but of monstrous size, yellow in color and of the richest flavor. In fact, it far surpassed the parent in quality save that it was so late as scarcely to escape the first snow flakes.

Make a practice of saving some of the peach pits from the very best fruit which you can obtain. Tie them up in a cloth bag and lay them out in some sheltered place where they will be safe, tho exposed to the freezing of winter, which will crack the outer shell and render the process of germination more easy. Plant in rows in early spring, giving rich soil. The next year the larger seedlings will be ready for transplanting to the permanent place. Thus, with almost no expense, a peach orchard can be started which will be sure to contain some choice fruit.—Bessie L. Putnam, Crawford Co., Pa.

DELAWARE BERRY CAMPAIGN.

The campaign to raise and ship 20,000,000 to 25,000,000 quarts of berries from the Delaware-Maryland peninsula next year is being wonderfully helped by the new development in fall-bearing berries. It seems almost like a dream that the fruit growers of this fertile peninsula can raise red raspberries all summer and all fall until frost, a delicious, substantially-priced fruit that heretofore could only be picked in June. Equally incredible seems the development that black raspberries can be raised here that will yield three harvests, and that a supposed fatal disease in blackberries has just been overcome by the experts so that this fruit, too, can be counted on heavily hereafter by the small fruit growers. The Progressive strawberry, a new fall strawberry that has the flavor as well as the color and taste of a real strawberry, can, it is found, be grown with good results here.

The question now is: If this peninsula grew and shipped 18,000,000 quarts (as it did over one railroad system—the Pennsylvania)—in 1912, a good berry year, what will it produce when in 1914 the new lines of fall-bearing berries begin to add their revenue? When, in the history of mankind, was there a time when good fruit was more needed and more in demand, particularly at the season before other larger fruits appear and after they are gone?

The Pennsylvania Railroad is beginning to co-operate with the farmers in advancing and developing this now tremendous business. It has reduced the minimum refrigerator carload from 15,000 pounds to 12,000 pounds so that berries go into market in much better condition. The delicate fruit must have some resiliency immediately available. With the constantly-increasing demand for fruit in the near-by cities, the fall-bearing berry seems to have been developed at the psychological moment for success. The small-fruit growers have astonished even themselves by the development, this mild autumn, of fall strawberries. There is the St. Regis raspberry. It is hard for old farmers to realize that here is a beautiful and

luscious red raspberry that bears fruit continuously from June to November, barring October frosts. Here is a berry with all the color and flavor qualities of the old standard, Miller's Red raspberry, and yet bringing forth fruit weeks and months after the Miller's Red patches have been abandoned until the following spring.

The Delaware Railroad records show shipments of eighteen million quarts of berries in 1912, and, after killing frosts had done serious harm this year, of twelve million quarts of berries for 1913. Sussex county in particular is well laid out in small fruits and at least one town, with two banks, fine schools and churches, has been practically made by the berry business, and a trust company operating all over Delaware has its headquarters there. The financial development of the county and its citizens, as a result of the berry business, has been remarkable.

In a campaign to raise twenty-five million quarts of berries, now agitating all the small-fruit men of the state, the new development of fall-bearing berries at a time when the public seems calling aloud for more table fruit, agitates the best men of the state. There is the possibility of more money, greater resources, bigger and more modern towns, and an active fruit business at a time when everything is falling off.

Beside President O. A. Newton, of the State Board of Agriculture, who made his fortune in small fruit and is now recognized as a leader in every new undertaking of the small-fruit industry, there are many growers who raise practically nothing but berries, and when the fruit is not being harvested they are working with their vineyards or laying out new plots. Edward Todd is one of the big Kent county growers, and his experiments on his berry farm near Viola, with St. Regis red raspberry and with Lovett blackberry have interested scientific men and college professors all over this section. Mr. Todd is a young Ohioan, but has been growing small fruit in Delaware now for nearly twenty years. Others working hard on the newest things in berries are Gardner L. Bunting, of Selbyville; S. C. Atherton, of Greenwood; David Rodway, of Hurlly; R. C. Bennington, of Dover; A. W. Slaymaker, of Wyoming; B. F. B. Woodall, of Milford, and Lester Lovett, the son of the originator of the Lovett blackberry, who has bought a 300-acre fruit farm near Milford for raising practically everything in small fruits.

Mr. Todd, at his interesting fruit farm near Viola, an expert as well as a practical man on fruit, discussed with willingness the future of small fruits on the peninsula, this week. He admitted that he did not see so much money in strawberries as he did in a studious culture of raspberries, blackberries and dewberries, and particularly the fall-bearing fruit. Mr. Todd grows the Miller Red raspberry, known as the old "stand-by." Of course, everybody in small-fruit circles knows that losses have been entailed on this fruit because of root disease. Mr. Todd plants the Miller and keeps renewing them so that none will be over five years old. He claims that he has successfully overcome the root troubles. "You will have some club root," he said, "but they will not 'die back.'"

The Cumberland black raspberry is raised generally by the small-fruit growers, and this berry, too, is showing signs of greater longevity. Several Kent county growers report three good pickings off their "black cap" vines this year. The blackberry men give much credit to Dr. Mel T. Cook, now associated with the New Jersey station,

for devoting unending time and patience to the battle with the fatal "double blossom," and the growers of Delaware who have thoroly tried his simple remedy now claim they have overcome all troubles. The remedy is the hand-picking of the double blossom. It is the result of a fungus disease entering this year's bud and spreading from one blossom to another until, next year it produces, instead of a berry, three or four little seeds around a blossom. In picking, the pickers can easily distinguish the perfect blossom from the broom-shaped substitute. It helps the other fruit that year and gives a general yield next year. Dr. Cook found that the disease did not extend further down into the plant and was no systematic or root trouble.—J. Milton Davidson, Kent County, Del.

ONE 1913 PEACH RECORD.

J. G. Harrison & Sons, proprietors of Harrison's Nurseries, Berlin, Maryland, have some rather enlightening figures on their 1913 peach crop. During the season they shipped from less than 100 acres 20,214 half-bushel baskets or about 312 carloads of 640 baskets each; 12,089 carriers, six-gallon-size, making 30 cars of 400 carriers each. In all, the shipments amounted to nearly 62 cars, or 19,174 bushels.

The maximum price secured for first-grade fruit in six-gallon carriers, f. o. b., was \$2.09; the lowest price, \$1.25. On half-bushel baskets the highest price was \$1.05 per basket; lowest price, 60 cents. Shipments were begun July 18, ending August 22nd.

To grow this peach crop, including plowing, cultivating, pruning, fertilizing, seeding, spraying, harvesting, hauling, and loading, cost \$4,223.36. On nine cars consigned by the company on its own account, the charges amounted to \$9,326.69, which amount deducted from the total net sales, \$35,165.53, left a total net profit for the year on the peach crop of \$25,838.84.

Such figures cannot fail to be rather fascinating.

Bulletin List for Fruit Growers.—The Pennsylvania Experiment Station, in its Bulletin No. 215, gives a list of publications of interest to fruit growers. Such a list should be in the hands of every orchardist, as it furnishes an invaluable work of ready reference, and many of the publications mentioned are free for the asking.

Packing Apples.—Circular 39 of the Purdue Experiment Station at Lafayette, Indiana, discusses equipment and methods for sizing, grading and packing apples in both barrels and boxes, and recent legislation on this subject.

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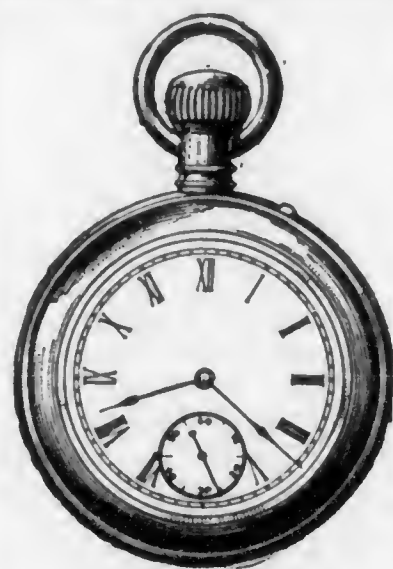
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The Dairy

GOOD FARMING AND RESULTS.

The illustration on this page shows the dairy barn on the farm of L. J. English, Broome Co., N. Y. About fifteen years ago the farm on which Mr. English now lives was offered to him at a low price, because the land and buildings were badly run down. He decided to buy, but was able to pay down only about one-half the purchase money, and his friends and neighbors predicted his failure. But one of Mr. English's characteristics is that he never gives up; he is proud of being a fighter. He found that he liked farming, or, to use his own words, "It is victuals and drink to me."

The farm contains 162 acres, mostly cleared land. A large part of it is about the best river flat in New York. It is not far from the junction of the Susquehanna and Chenango rivers, and the deposit of alluvial soil in some places is more than ten feet deep. It is clay loam on gravel, and in this soil anything that is adapted to local climatic conditions is easily grown. The value of this soil, naturally drained, several feet deep on the average, and filled with humus, all washed in from a large area of country, is very great. A part of the farm is upland, more or less gravelly. The rougher part on the hill-

of his characteristics, not to do things by halves, but thoroly. After reading awhile he found he was hungry for the information the papers contained. He had caught a number of valuable ideas, and he began to put them to use. He saw that to make his farm pay he must build up a good working herd of purebred or high-grade cows; that he must make his barn comfortable and convenient; that he must produce on the farm the cheapest and best ration for the cows, in the form of ensilage, alfalfa and clover, and that he could use the deep, rich alluvial soil of the river flat in growing valuable cash crops for the city market. At great expense an old barn was rebuilt, and in it are the comfortable and sanitary stables. A partly-covered barnyard is attached to the stables.

He has a very complete equipment of farm tools and a good house to keep them in. All work possible to do by machinery is done with it. No time is lost with inferior tools. With him, everything must do good work and do it at once.

His method of getting rid of weeds that cannot be destroyed by cultivation is unique. When they first appear he goes to the city and hires boys and works with them, and so gets rid of the weeds very soon. He does not let weeds stay long in either his new grass seedling or cultivated fields. He grows a large acreage of potatoes, I think, gen-

erally on a clover or alfalfa sod, so the growing of the clover for the cows helps him to succeed with the potatoes. He rides to plant, cultivate and dig the potatoes, so about all the work is done by machinery. He also grows large fields of cabbage, onions, etc., for the city market.

CO-OPERATIVE CREAMERY EXPERIENCES.

What is the matter with the co-operative creamery? In the last twenty-five years three co-operative creameries have been started within the range of my observation. Out of the three, two are dead today, while the other seems to be doing a thriving business. Why not all three? They were all equally well located so far as accessibility to milk is concerned. All were convenient to market. Still, two have gone the way of the world and only one remains.

The first co-operative creamery was made up of farmers who went about it enthusiastically. I had some little part in getting the papers of incorporation ready and setting the company on its feet, altho it was not where I had any stock in it. It seemed to us all then that the concern had very bright prospects. It seems to me so now.

For a time everything went well. A good article of butter was made and the sales were satisfactory, so far as I ever knew or heard. Then rumors of trouble began to come. Things were not work-

ing as smoothly as they should among the patrons. Now, I do not know anything about the cause of this trouble personally, but it was common talk that the patrons became suspicious of each other, thinking that some were being favored more than others, and receiving better returns for their milk. At any rate, the creamery soon went down and today the last vestige of it has been wiped out, foundation stones and all. No attempt has been made to revive the concern since.

The next co-operative creamery was organized by an outside concern which made a business of manufacturing and selling creamery fixtures, as well as putting up the buildings in which these were to be used. The plan was that the farmers should take stock according to the number of cows they owned, the milk of which would be sent in to the creamery to be made up and sold. I was not a member of this organization, either, but a good many of my neighbors did join it. Officers were elected and the building was put up. It was a good building and the equipment, so far as I know, was first-class, unless it may have been the separator, which was pronounced by the man who was at that time carrying on a creamery in the same village, rather inferior to the one he was running. As to this, however, I know nothing, and it may have been simply a matter of personal preference.

This creamery went down, and its building, too, has been razed to the ground. Two or three things contributed to this outcome of a well-meant effort on the part of the farmers to better their own condition. Of the intention of the promoters I do not wish to say anything. There were a good many farmers who thought the building and its equipment cost a good deal more than it ought to, and I am inclined to think this may be so.

But the territory in which this creamery was located was not able to support two creameries profitably. One might do a good business; two were too many. In one way it was a good thing for the farmers. There was some rivalry, naturally, as to which should pay the better price to the farmers, and it was most of the time "which and t'other" with them; but while that kind of competition brought a little more money to some of the farmers, at the same time it made them a bit jealous of each other and caused some very bitter feelings among those who had formerly been good friends. Anything which tends to work that sort of a feeling among farmers cannot be called a good thing. Since this creamery went down, the old one has had its own way, but on the whole, being in the hands of an honest man, it has had the support of most of the farmers of the community.

Now, the third of these creameries had these advantages over the other two. It was a little nearer to market; it was the pride of the farmers who contributed milk to it to get the best cows they could, and they chose some fine men to be their officers, men who stood well in the community and who were themselves interested in everything that goes to make up a successful business. The cows that gave the milk for that creamery have been growing steadily better and better every year. There are today a good many more purebreds than there were in the beginning, and the patrons, if they have had any doubts as to the fairness and the justice with which the proceeds were divided, have had the happy faculty of keeping it in the main to themselves and working all the time for better things. One thing that has helped to make this creamery a success is the fact that a first-class butter-maker has always been employed and one of the best men available acts as salesman. The butter from this creamery has always enjoyed a good reputation in the country round about and there never has been any difficulty in selling the product at a good price.

As I look at it, a few things are evident in this short story. One is that, to win, a co-operative creamery must be well located. I would be very careful how I established such an institution in a neighborhood where there would never be business enough to support it. Then, again, there should be harmony among the patrons of the creamery. Houses that are divided among themselves are proverbially short-lived. A good feeling, a feeling of kindness and fellowship, helps and has a money value far ahead of anything we sometimes think. Then, too, care must be taken in putting up and equipping a co-operative creamery. The first cost may be a heavy handicap. Good officers will also do much toward success. They must be heartily supported by the patrons, however. The co-operative creamery, in and of itself, is a great thing. It is all right—properly organized and properly conducted.—E. L. Vincent, Broome Co., N. Y.

ernally on a clover or alfalfa sod, so the growing of the clover for the cows helps him to succeed with the potatoes. He rides to plant, cultivate and dig the potatoes, so about all the work is done by machinery. He also grows large fields of cabbage, onions, etc., for the city market.

Mr. English has spent large amounts in conveniences and comforts for his farm home. When I was at his place he was laying pipes to a distant spring of water, and had built a concrete reservoir around the spring, all at a large cost. He is making expensive permanent improvements, sending his two sons to high school and college, besides enlarging the farm by buying more land, and the farm is paying for them all.

Just how much he saves on the usual grain bill, by growing alfalfa, clover and ensilage corn on the farm, is what dairymen will be interested in. He showed me his books, and he keeps farm accounts in a business-like way. The returns in milk sold the year before from 25 cows was about \$3,000, or \$120 per cow. The total amount of grain purchased the same year was \$381, which leaves an income, net of pur-

chased feed, of \$2,619, or over \$100 per cow. Where clover and alfalfa are not fed, I have found that the usual grain bills for herds of this size are about twice this amount. This profit of over \$100 is due to keeping good cows, and feeding economically.—W. H. J.



RESIDENCE AND DAIRY BARN ON FARM OF L. J. ENGLISH, BROOME CO., N. Y.

side is used for pasture, but it only partly feeds the stock, and is supplemented by soiling crops.

On this farm I saw what one seldom sees in New York outside of Onondaga county—a large acreage of almost perfect stand of alfalfa, and fields of red clover. Mr. English assured me that he could grow alfalfa on most of the soil in New York with the same certainty as timothy. His neighbors on the other side of the line fences, on the same kind of soil, were producing only light crops of timothy or mixed grasses. If Mr. English grows timothy hay, he sells it in the city. He showed me large mows of clover and alfalfa hay, and told me that these were the only kinds he fed his cows.

A professor from one of the state agricultural institutions called on Mr. English during his first year on the farm, and before he went away asked him if he wanted the bulletin from the college sent to him. Mr. English replied that he had no time to read. The way the professor looked at him set him to thinking, and the result was that he subscribed to some of the leading agricultural papers. This shows another

PERSONAL EQUATION IN FARM PRACTICE.

A business man in the city writes: "I am engaged in several lines of business; some of them are carried on to a considerable extent. We employ a good many men in the factories, pay for office help and a good sum for superintendence, and we get good dividends. In addition to this, I have a farm and employ such help as is needed to work it under the direction of a competent superintendent, who is a graduate of one of the best colleges of agriculture. Much of the produce of the farm is sold to special markets at fancy prices. The milk nets me eight cents at the door, while the usual price for milk is about three and one-half cents. I figure from my experience that I am at least a fairly good business man, yet I am not able to make the farm pay expenses to say nothing of the payment of dividends. Can you tell me why I fail on the farm while making a success of the other lines by the exercise of the same business methods? By that, I mean that I employ, in every case, men who are specially trained in their respective lines, and employ labor to the best advantage that I can."

In trying to answer this question, I am inclined to say first, that all farmers have troubles, but that the man who is trying to make a farm pay by means of hired superintendence and hired labor has about the hardest job of all. On usual farm prices it seems almost a hopeless task to get back what is put in, to say nothing of paying dividends or interest. Unless there is some special market in some line, I do not remember that I have ever known it to be done. I have always said that farming is not profitable in the sense that most lines of so-called business are profitable.

The trouble seems to be that marketing is too expensive, as the consumer in most cases pays enough to make the production profitable. The farmer who makes his farming pay is the man who is right in the work personally all the time. He may do all the work himself, or preferably he will work hard and at the same time he will direct the labor of one or two good farm hands. This is the man, who, with good ideas of farming and good health, is making the farm pay. It is not the man who is working out some pet scheme by the aid of hired labor and hired superintendents.

The man who works for himself works to better advantage than the one who works for hire, as he is more interested in the outcome. He does more work and does it to better advantage. Moreover, quite a share of the farmer's profits are the result of economy all along the line. He economizes in his expenditures and in his work. His thoughts are on his farm and he plans more closely than the man who relies on his training in books entirely. It seems to me that a man with training in theory of farm work, with experience in actual farming, ought to do better than the man without the book training. Unfortunately, we have few or no instances of men of that stamp who have gone on farms and tried out the matter to see how it can be done. Some have gone on farms as superintendents, but that does not tell whether they can run a common farm or not, on their own responsibility. Some one ought to put his energies into the problem and be a Moses of good farming. I believe he might succeed if he will work as well as superintend, and do the work on his own farm.

I do not expect to see money run a farm successfully in the immediate future. Not but what a good deal of farming will be done with money alone on the part of the owner, but I am not looking for such work to prove financially successful as in the case of the working farmer. Of course, I mean where the produce is sold at the common market, such as must feed the people of the nation. The farmer of the common kind has pretty much a monopoly on profitable agriculture in cases of usual markets, and this he gets by the exercise of good judgment, by economy and by industry.—H. H. Lyon, Chenango Co., N. Y.

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DANGER OF PAMPERING COWS.

An enemy of improved dairy cattle is the man whose zeal and enthusiasm causes him to overdo his duty toward his stock. When animals get so highly developed and delicately organized that sunshine and outdoor life is denied them, disease and degeneration are sure to overtake them. Extremes are to be avoided. Neither the hot house nor the stormy outdoors in cold weather is a fit place for healthy stock. In recent years the tendency has been decidedly toward too much stable life for dairy animals. There is imperative need of a change which shall use the sun, air, grass and outdoor exercise in securing and maintaining that superb vigor which immunizes animals against disease.

It is well enough to assist nature in caring for stock, but in his misguided zeal the dairyman too often sets nature's ways aside. Modern barns are as a rule too close, too warm and too "comfortable." Inadequate ventilation is a common fault, inaccessibility of light and sunshine an equally serious one. Animals that are kept closely confined in such warm, stuffy barns will inevitably decline in vigor and in the power to transmit constitutional strength to their progeny.

Many who advocate the close stabling will accuse the writer of heresy, yet I have the courage of my convictions backed up by experience and close observation among the better class of dairymen, and it is my judgment that the greatest need of the dairy business, both from a productive and a reproductive standpoint, is a more common-sense method of herd handling. "One swallow does not make a summer." Neither does one year's results establish a fact. If we are working for one season's results alone, the more quiet we keep the cows the greater will be the profits. I do not claim that cows giving milk need much exercise. The cow, in her natural state, if she has plenty of food, eats, drinks and lies down in order that she may complete her further work of digestion.

Every thoughtful student of physiology and hygiene understands the beneficial effects of pure air and a bath in the health-giving sunshine. Fresh air purifies the blood, and the purer the air taken into the lungs the more thorough and complete will be the purification. Cows are not so much unlike human beings after all. Give them a light, warm and properly ventilated stable and plenty of fresh air and outdoor exercise on pleasant days, and feed them a proper diet and they will be healthy and immune from the diseases so common among dairy herds.—W. M. K., Erie Co., N. Y.

Bursal Bunches.—For the past nine weeks our local Vet. has been treating one of our draft horses that has a swelling on shin, below knee and on knee joint. These bunches appeared at the time he went lame. I have applied a blister to bunches.—H. P. R. Brandywine, Pa.—Apply 1 part red iodine mercury and 10 parts cerate of cantharides to bunches, once a week. Give him 1 dr. ground nux vomica and 1 dr. potassium iodide at a dose in feed, 3 times a day.

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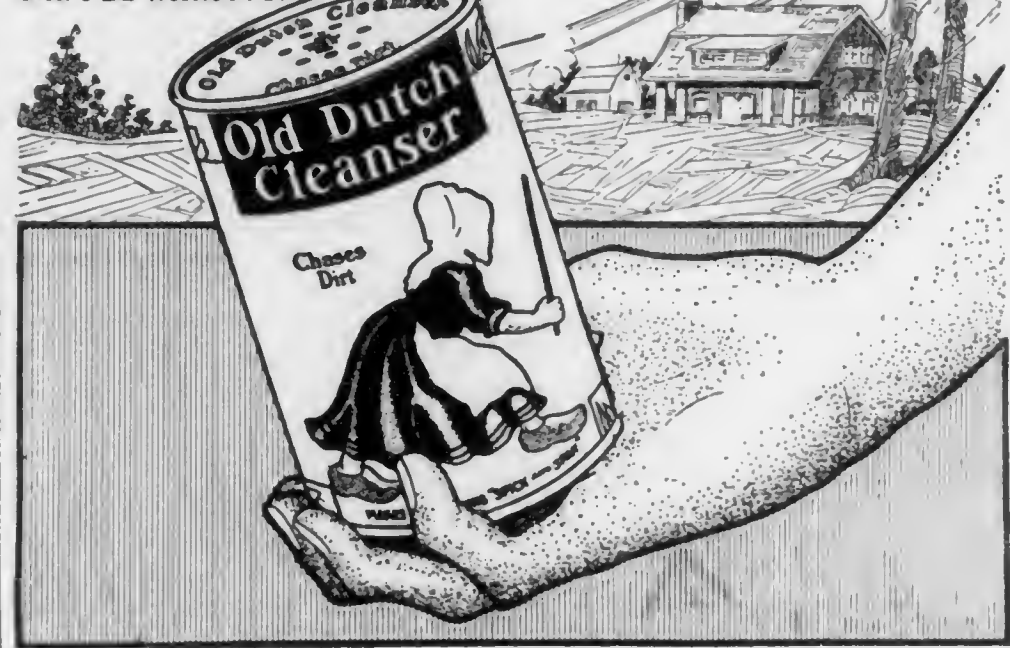
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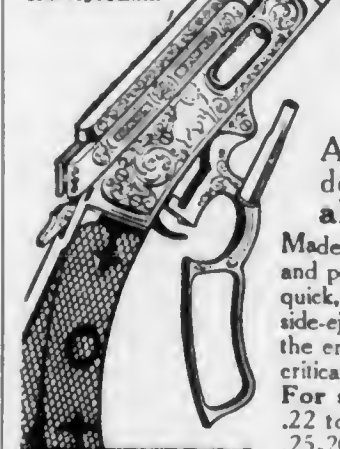
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Poultry

SECOND INTERNATIONAL EGG-LAYING CONTEST.

(Continued From First Page.)

to maintain color, shape and shade of feather, and hold against the struggle of nature to revert. Here is an incentive which keeps a man keyed to enthusiasm every moment. There is no doubt but that the American breeds are the best and most economical to raise for broilers, roasters, or market fowl. It is, I think, safe to claim that our later breeds will make four pounds of meat in less time and at less cost than any of the long-established breeds, and so are deservedly popular with the meat grower. Naturally men have sought to establish that form most in harmony with meat production, the maximum of weight at the minimum of waste. Here, as through the whole animal kingdom, form governs purpose, and the more one can intensify the es-



NEAT AND EFFICIENT POULTRY HOUSE ON THE FARM OF MRS. FISHER, CENTER CO., PA.

entials at the foundation the surer will be the results.

In recent years changes have been taking place until we have reached a period when, for the greatest profit, it may seriously be questioned whether there is not more profit in eggs than in poultry. As attention has been directed along this channel there came at once a call for more knowledge regarding the breeds, from the egg-laying standpoint, and this resulted in these yearly contests. I fancy that the average egg production of the hens of Pennsylvania may be 9 or perhaps 10 dozen yearly, that being approximately the way we figure in Maine.

Cost of keep has more than doubled in the past twenty years and the problem facing the poultry keeper is how to get his pay for feed, labor, care, rent of buildings, interest on investment, and a profit per hen as compensation. Thirty years ago the average price realized for eggs was 17 cents. Today, in the same town, it will come close to 26 or 28 cents. It is not that in the contests at Storrs, and elsewhere, certain breeds have led in egg production, but that a certain type of hen will lay more eggs than another of different type. Here is the great lesson to be grasped in its entirety. Five White Leghorn hens at Storrs have laid an average of 240 eggs in the past 365 days, a record never equaled, but one or more of those hens produced more than 280 eggs each, while others fell as far below the average. To assume that a White Leghorn is the best layer because this hen was of that breed is to beg the whole question. Some of the pens of this breed gave only an average of ten dozen each for the year, indicating that something

more than blood is necessary for profit, or satisfaction. There is one question I want to ask and leave with the poultry men to solve for themselves. Is it possible that in the effort to establish style, color, spikes on the comb, wattles and ear-lobes, and a peculiar set of feathers, the arbitrary markings which hold in the show ring, we have sacrificed the vital thing—utility? These contests have been judging our breeds by the dollar standard. It is this, and this alone, which interests the farmer and business poultry keeper. Those English-bred leghorns have been bred for egg production first, and while breedal characteristics have not been overlooked they have been made secondary to the business end—egg making. Here is the lesson for every man who is keeping hens for profit. That there is a tremendous lesson also in the study of the system of feeding, followed so unwaveringly in all these contests, no one can question, but with this there must go a deeper appreciation of the essentials involved in form fixed by inheritance.

We must have more eggs per hen, and the getting of them rests on breeding,

Where any one has spare time to devote to the work, winter eggs will be found profitable. We have found that where we must depend on the labor of others, paying high prices for that labor and counting the great amount of time consumed, there is little profit in winter eggs, and here at Woodbine Farm we make no great effort to produce a large yield of winter eggs. We give the hens excellent care and are satisfied with the results, and find spring and summer eggs pay us best. Mrs. Fisher ships the eggs to New York commission houses and is satisfied with her returns. She endeavors to produce a high-class egg, and, of course, receives a premium over current quotations. She experiences the usual difficulties in raising the chicks. She usually raises to maturity about 66 percent of the chicks hatched out, as nearly as could be ascertained from the figures given. Now, 34 percent is a pretty heavy loss, yet it is about what we find to be the actual percent reared to maturity on many other poultry places. We did no better than this at Woodbine Farm years ago, when we used the old, supposedly orthodox methods. When we threw old practice over and started out to study Nature and what it required to give satisfactory results, we were soon able to rear to maturity from 85 to 95 percent of the chicks hatched, and are now doing as well on a large scale. Our methods are different, but they give results. One reason for the poor success in rearing, I think, can be traced back to forcing for winter eggs.

This house is well built and has an excellent southern exposure. The hens are kept yarded and most of the work of caring for them is done by the women folks.—J. T. Campbell, Crawford Co., Pa.

Hammon Poultry Show.—The fourth annual Poultry Show of the Poultry Raisers' Association of Hammon, N. J., will be held December 2 to 4 inclusive, George O. Brown, judge.

care and feeding. Here is where an object lesson like that at Storrs becomes of the greatest value to him who reads as he runs and thinks as he works. In certain breeds the egg-producing instinct is stronger than in others, and he who seeks for profit must select with special reference to the line of work he wants to carry on, and then go to work to build for larger size and earlier maturity, or for more eggs. In the days to come the largest returns in either will not be found in any attempt to combine the two. We meet here the same problems as in milk production, or beef making. Extremes in either demand singleness of purpose. The two hundred-egg hen is not a profitable meat maker. It will be well if the results of these contests are critically studied and carefully followed. There is in them a tremendous lesson for the poultry keeper of 1914.—Dr. G. M. Twitchell, Maine.

A CENTER COUNTRY POULTRY HOUSE.

The accompanying illustration shows Mrs. Fisher's poultry house in Center County, Pa. Mrs. Fisher keeps about 800 Single-Comb White Leghorn hens in two houses, one of these houses being shown in the illustration. In the two-story end of the house is stored the feed, and in winter a fire is kept going continuously in a little stove. In this stove is a water coil connecting with a range boiler. From this boiler the hens are supplied with hot water to drink. We saw, in this room, an oats sprouter in operation, providing green food. The hens looked to be in good condition and were turning out a good supply of eggs at the time of our visit.

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will soon pay for one of these

Automatic Self-Heating Poultry Fountains and Heaters

Keeps water at the right temperature day and night in the coldest weather and prevents loss from a quart of oil a week. Made of Galvanized Sheet. A heater and 2 fountains Automatic. A heater and 4 fountains Automatic. Write for Circular and Catalogue. C. A. S. FORCE WORKS, SARASOT, MICHIGAN

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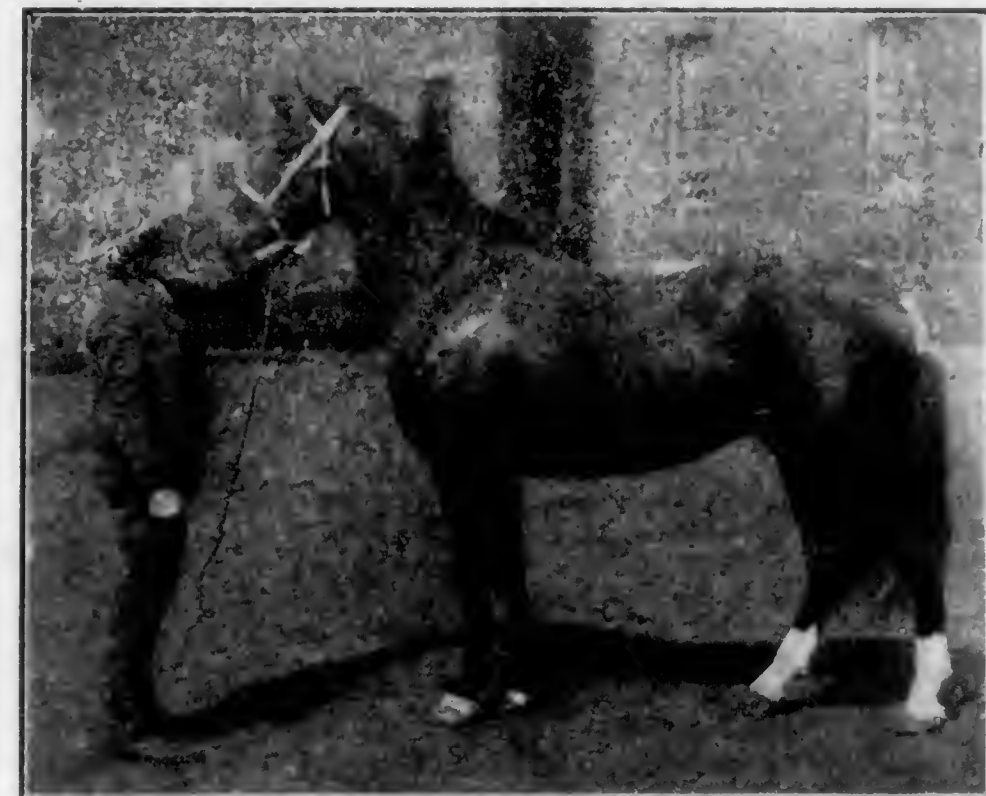
HORSE BREEDING IN RELATION TO UNSOUNDNESS.

In driving about the country and also in cities our attention is so often called to the unsoundness of horses that the question arises—why are there so many unsound horses? Unsoundness in the great majority of cases is due to one of two causes: either the animal has a poor conformation and is hence predisposed to unsoundness of various kinds, or else he has been used unjustly. The horse of good conformation if properly used ought to pass thru life sound. "Accidents will happen in the best of families," so with horses, accidents will happen, but these account for only a few of the cases of unsoundness.

If carefully studied, the majority of the cases of unsoundness will be found to be due to poor conformation, which

To illustrate instances of unsoundness as the result of poor breeding, a mare which went blind with the disease commonly known as "moon blindness," raised four colts, the oldest of which is eight years old. Three of these colts have gone blind with the same disease, and the fourth, being only a yearling, has ample time yet to develop the disease. An animal which goes blind for any reason other than an external injury ought never to be used for breeding purposes. What is true of the eye is true of every other part of the body.

We have in mind another instance of a mare of fine conformation but affected with heaves, which raised two or three colts all of which contracted heaves early in life and became practically useless when they should have been at their best. A mare may be a fairly good individual herself and yet be worthless for breeding purposes, as her offspring may inherit the conformation of a more distant ancestor which was predisposed to unsoundness. This is



A GOOD TYPE OF THE U. S. CAVALRY HORSE; SCARCE AND WORTH \$3000 OR MORE. (From Government Photos.)

in turn is due to poor breeding. Too often the mare which is more or less broken down is used for breeding. We seem to forget the great law of nature that "like produces like," or else hope that in our own case it will be set aside; and that we will get a colt of good conformation from a dam or sire of poor conformation; or again we rely upon the strong points in the sire to overcome the weak points in the dam. This cannot be relied upon; each attempt is an experiment without sufficient chances for success to warrant its being tried.

The question may arise, is an unsound mare ever fit for breeding? It depends upon the cause of the unsoundness; upon her conformation. If the disease causing the unsoundness was produced without due provocation, or, if there was some reason for it, but not enough, if the conformation had been right, do not breed her. If, on the other hand, the unsoundness was due to an accident of a severe nature, then she may be bred. In other words, it is the conformation that is transmitted, not the unsoundness itself.

We sometimes say a certain disease is hereditary. This is not strictly so. A young animal is rarely, if ever, born with a disease which may be affecting the dam or sire. What we do mean is that the conformation which predisposes to the disease is hereditary and that the young animal is apt to develop the same disease with slight provocation. Select only those mares for breeding that have back of them a line of ancestry that has stood the test of good hard work.

be large and lie back from the bone; the fetlocks large but free from puff; the pastern, the part from fetlock to hoof, in the draft should be short, large and rather straight up and down; in the road horse it should be a little longer and a little more sloping to make the step more elastic and prevent pounding, but it should not be too light.

Too much attention cannot be given to the conformation of the feet. They should not be too fat, a common fault with the feet of draft horses. The heels should be of fair height and nearly perpendicular with the ground, another common fault with draft horses; their heels being too low and cutting under forward too much, and hence not strong enough to support the great weight to be carried. The heels should also be wide apart; too narrow at the heels is more apt to be a defect of road horses than of the draft. The frog should be large and the sole concave, not flat; the bone firm and dense. With the hind limbs, the hock is the part most often affected with disease, and hence the part that should be especially well formed and strong. It should be large, not necessarily coarse, but a little suggestion of coarseness of bone is to be preferred to fineness; it should be broad from side to side and deep from before backwards, free from puff. A puffy condition of the hocks is a common defect of large draft stallions. They also frequently have meaty hocks, an objectionable feature.

The hock should also be well supported below, there being a gradual tapering rather than a sudden drop off at the bottom where it joins the leg below. The back of the hock should be straight; a straight edge placed against the back of the leg should touch evenly all the way from the point of the hock to the fetlock; the side of the hock should also be straight and not bow in towards the other hock, "cow hocked," as it is called. The front border should not be too straight, neither too much curved, "sickle hocked." About the right angle is that at which if the animal stands naturally and a long straight edge is placed against the back of the leg from the fetlock to the hock it will strike at the back point of the thigh a little to one side of the tail. If it is back of this point the hock is too much bent; if it tends to strike forward of it the hock is too straight.

The conformation below the hock should be about the same as for the front leg; the cannon, the part between the hock and fetlock, being, if anything, a little flatter and wider than the front cannon. The rear pasterns also are a little longer and more sloping than in front.

It is to be regretted that in some localities there are not stallions of the different types worthy of being used. The fact that an animal has been imported is not a guarantee of his being a good individual or that he is a good breeder. In other localities there are choice individuals. Of course the only true test of a sire is his get; if he is as prepotent as he should be his colts will resemble each other even tho their dams are somewhat unlike.

There is not any too much money in raising horses at best, but certain it is there is more in raising a good one than there is in raising a poor one. The good ones are not the result of chance; they are the result of careful selection and mating of a good sire and dam; and by a careful study along this line many of the chances of horse raising can be eliminated and a much larger percent of the colts reared to a marketable age in a sound condition and thus bring remunerative prices.—G. A. W., Crawford Co., Pa.

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T. J. KERR, Collins, N. Y.

Large Berkshire Swine, Registered High grade. Prices reasonable. Write HOME FARM, Center Valley, Pa.

DUROC PIGS—Aug. Farrow—\$15.00 per pair.
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Duroc Jersey Choice service boars, very growthy and of prolific families. Culls bred for Spring farrow. S. F. Miller, Van Wert, Ohio.

DUROC Jersey Spring Boars, Sows bred or open. Choice lot Fall pigs. Large, mellow, heavy boned. No skin. Prices reasonable. L. C. McLaughlin, Rt. 6, Pleasantville, Pa.

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Philadelphia, Pa., November 29, 1913.

Twenty-three Pennsylvania third-class cities Commission Government. take over the commission form of government on December 1. The commission system may be classed as one of the so-called progressive issues of recent years. Under the form in which it will operate it will include the principles of initiative and referendum, and will do away with duplication of work by departments and decrease the number of city officials. It will introduce a number of features of control that have proved popular and entirely successful in other states. The feature of the change which should prove of great importance to the state as a whole is found in the claim of its supporters that it will create a more active interest on the part of the citizens in municipal affairs. Commenting on this feature, the author of the commission law said: "Residents of the city are fast learning that their city is not a thing separate and apart from themselves, but an entity in the growth and prosperity of which they are the direct beneficiaries; that they are stockholders in a municipal corporation, and ought to receive their dividends in lessened taxes, enforced sanitation, clean and improved streets, etc., and in the possession of a civic pride justified by a sane, safe and progressive city administration." This view of the possibilities under the commission form of city government may prove too optimistic, and the fond hope of the parent for his favorite law, but it would be difficult to frame the ideal democracy in city government in more concise language. If the reform will accomplish what is here outlined it will have performed a splendid mission, not alone for the cities thus governed, but for the entire state. If there is a single quality in citizenship that is needed more than others it is the general realization of personal interest and concern in the things which affect city, state or national government. It is always a grave question whether the indifferent vote is not really more dangerous than the ignorant vote, and the indifferent element is a factor in every election. The only way to eliminate this is by the creation of such personal interest as is aimed at by the founders of the commission law, and increased interest and responsibility in city government means increased

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appreciation of personal responsibility in state government. What this may mean to a state is best shown in the case of New York, where state politics have been so completely and consistently dominated by a political machine which is permitted to exist only thru the subservient will of the voters of New York City. The state has been placed at the mercy of the city organization, and is practically helpless until the city voters become ready to throw off the organization yoke. The stronghold of machine politics of every state is always in the cities of the state. Vitalize the citizenship of the cities and the politics of the state will be purified. If the commission government will accomplish these results in the third-class cities of the state, it should pave the way to its extension to the larger and more powerful cities and result in improved political conditions in city and state alike.

The death of Hon. Jerome T. Ailman at his home in Juniata County, Pa., last week deprives Pennsylvania agriculture of one of its most efficient leaders. Mr. Ailman combined qualities which would have made him prominent in any profession, and it is a reflection of the sterling honesty of the man that he chose the honorable profession of his birth as the field for his life work. How well he served that profession is but partially represented in the positions of public trust which he was called to fill. He was foremost in the inner councils of the state grange, and the present influential position of that body as the leading representative of the agricultural industry of the state is in a large measure the result of his guiding influence. He served three terms in the state legislature, where he was more a representative of the farming interests and the rural people than the representative of a political party. Born and raised on the farm, he had the true "country-minded" spirit, and his sympathies with the country people and their problems were so well fixed that he remained true to them thruout the years of his development, and in his later life when he threw the full weight of his mature faculties into the support of rural institutions. His going leaves a vacancy in the ranks of men who are doing things for agriculture, but his life should be an inspiration to others who follow him. There is no business in which efficient leadership is more needed than in that of farming in its professional sense. There are few that present greater opportunities for men and women of the proper capacity and with the true country spirit than farming. The farm has produced the majority of great men in the past, but these men have cast their lot with the great professions and great movements of their day. Agriculture is but coming into its own, in which it will engage the brains and effort of the greatest leaders. These, too, must come from the farm. Mr. Ailman was an exception in his day in bringing the advantages of a university training back to the problems of the old farm. Because of him, and others like him, there will be more college and university farm leaders in the future.

The great International Live Stock Exposition, held annually at Chicago, has never had the support from the East which it deserves. The East has suffered more from this condition than has the show. The present revival of interest in stock raising thruout the entire country should draw every stock breeder and prospective

grower to this show this year. It is impossible to adequately describe the many advantages offered by the International to those who wish to make a real study of it. It has long been the greatest show of live stock in the world, annually presenting the best and most perfect products of the breeders' skill. But it is more than a mere show. Early in its development the managers sought to bring out its educational possibilities to the greatest possible degree. How far they have succeeded can only be appreciated by attendance. The visitor not only sees the most perfect animals of the various classes, but he has the opportunity to meet the men who have produced them, learn of methods of breeding, systems of feeding, market demands, farm practice in meeting these demands, and numberless other details which will be of vital interest to him in his breeding work. Any Eastern stock feeder or breeder, whether he is interested in horses, cattle, sheep or swine, can get more practical, up-to-the-minute information on the successful practice in his business from a visit to this show than from years of home study and comparison with home products. This is not intended as a mere boost for the International; that institution is too firmly and favorably established to require boosting. A mere statement of its special features is sufficient argument for liberal attendance and support from the East. The farmer stockmen of this section need to get in closer touch with it and profit by its yearly lessons. The International this year is held November 29 to December 6. Special railroad rates are offered over most roads.

HON. J. T. AILMAN.

After an illness of four months with tuberculosis of the bone, Hon. Jerome Thompson Ailman died at his home at Thompsontown, Juniata Co., Pa., November 18. Mr. Ailman was one of the most prominent and highly respected agricultural leaders of the state. He was a man of exemplary personal habits, and with such rare ability as a statesman and leader as to call him early into various positions of public trust. He was elected to the Pennsylvania House of Representatives in 1907, and was returned to the same position again in 1908 and 1910. In 1894 he was the Peoples' Party candidate for governor. He held the position of Secretary of the Pennsylvania State Grange from 1894 until the time of his death.

Mr. Ailman was born October 5, 1849. He was reared on the farm and secured his early education in the rural schools. Later he attended the Bloomsburg State Normal School, Airy View Academy, at Port Royal, and completed his education with a course at Princeton University, from which institution he was graduated with high honors in 1877. His family, consisting of wife and four children, have the sympathy of a host of friends and acquaintances, who realize that in the death of Mr. Ailman, Pennsylvania agriculture has lost one of its most faithful and illustrious leaders.

STATE CAPITAL NEWS

Cold Storage Situation.—In spite of the turmoil which characterizes the cold storage situation, the law of 1913, imperfect as it may be, is proving that regulation is essential and it is strongly suspected that much of the complaint is due to the fact that some people's toes are being trod upon because they got in the way of the public. The dairy and food commissioner seems to be impressed with the very proper idea that he should enforce the law as he finds

it and he has declined to permit eggs and other foods to remain in storage longer than the periods prescribed without being tagged or outlawed. Some things coming to light are that millions of dozens of eggs are stored in warehouses of the state at a time when the farm supply is at its lowest and the price at its highest; that as fast as eggs are declared to have been stored the limit of time, car-load lots can be obtained from other states; that in the face of this condition men declare the periods of storage too short. The public is now having an opportunity to see that the blame for the high prices of dairy and farm products belongs not on the farmer but on the speculators who buy up the products from the farm and lock them up. There is not much sympathy for the owners of tons of eggs and butter stored since last summer and held in storage now. But the law, among other defects, does not prevent the re-entry of eggs or butter from other states which have been in storage. It is an easy matter to take eggs or butter which have been in storage close to the limit out of storage in Pennsylvania, ship them to New York, New Jersey, Ohio or Maryland, repack them in different crates or vessels and ship them in again. This, it is strongly suspected here, is being done, and is one thing the next legislature will have to rectify.

Supervisory Work.—The state's work for supervision of the supplies of fertilizer, linseed oil, feeding stuffs and paris green is well under way, and it is gratifying to note that the decrease in frauds appears to have been maintained. This year there have been comparatively few prosecutions brought for adulteration of cattle feeding stuffs or paris green, while it is stated that the fertilizer analyses have shown that there is little fraudulent work. The linseed oil investigation is still under way.

Farm Counsellors Close.—Pennsylvania's farm counsellors will close their active work in the field within a week or ten days, the advisors being detailed to farmers' institute and moveable school work. Some counsellors paid over 200 visits to farms in a month and consulted with many more people, and the good, common sense which marked what they had to tell has evoked many letters of thanks for the legislative and state authorities.

Scalp Bounty.—It seems to be very unlikely that payments will be made to counties in reimbursement for bounties on foxes, wild cats, weasels, owls, and hawks for months to come. It has been held by the auditor general that the principle involved in the act appropriating all of the income from automobile licenses to the highway department for road improvement, which is to be argued in the courts next year, is the same as in the act making the appropriation for bounties. The hunters' license act, which will yield about \$250,000, provides that half of the income should go to the counties as reimbursement for money paid for scalpings of certain animals and birds, and the other half to the game commission for propagating certain game. The auditor general takes the position that the act is in violation of the specific appropriation act of 1909, which requires every appropriation to be specifically set out, not made by the simple use of the word all.

Townships Got Money.—After weeks of quite unnecessary hold up the townships have gotten checks for their shares of the million dollars appropriated to pay bonus on the cash road work tax collected. This money has been held up in the financial end of the state government, but the legisla-

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tive branch has held up probably three times as much. Under an act of 1909 the state bound itself to pay the townships this bonus. It has never kept its end of the bargain.

Payment for Cattle.—The validity of the appropriation to reimburse cattle owners for animals killed to prevent spread of disease having been established, some 850 checks are now being sent out by the State Live Stock Sanitary Board. This money was due six months ago, but, altho the bill was signed in July, the quibbling caused it to be held up.

Big Corn Yield.—A two-acre crop of corn reported from Dauphin County appears to have established a record. S. P. Bailey planted a yellow dent corn on the two acres and got 394 bushels, or 197 bushels to the acre. The yield will be made the subject of a department report.

Telephone Fight Over Again.—The Public Service Commission has re-opened the telephone rate schedule and has gotten into deep water. The re-opening has forced the commission to take up the question of physical valuation of properties. The rates were based on population and the Bell Company has objected on the ground that present rates could not be set aside unless they are shown to be discriminatory and unreasonable, while the independent telephone people asserted that the state had no right to impose rates that are confiscatory and that the question of cost of service and the facilities extended in rural districts by so-called "farmer" lines must be considered. The chances are that the telephone rate matter will drag along for months.

Elections Not Held.—It has developed in the course of the examination of returns of elections that in some counties elections for justices of the peace were not held last election as required by law. In some the notices were disregarded and the governor will be called upon to appoint magistrates.

Agricultural Education.—According to reports made by school authorities, agricultural education has been successfully inaugurated in several districts of the state, purely agricultural courses having been established. The work is being observed with interest by people in other districts and the practical aid to be given by the state will assist materially.—Hamilton, Harrisburg, Pa., Nov. 24, 1913.

NEW JERSEY FARM NEWS

New Basket Law.—The law standardizing baskets became operative November 1 and it is proving very effective. Baskets used for the sale of fruits and vegetables must be of one of the following capacities: 32, 20, 16, 8, 4, or 2 quarts. Berries and small fruits may only be sold from standard one-quart and one-pint boxes and baskets. This law affords protection to the consumer, but assists the farmer as well. Formerly the retailer repacked fruit into smaller packages. For instance, a 32-quart crate of berries would make 16 of the retailer's "quarts." A standard basket of peaches contains 16 quarts, but from three such, the retailer would make four baskets and sell them for half-bushel baskets. It is expected that the law will be so amended as to control shape as well as size of baskets.

The Barrel Question.—There is a demand for a law that will standardize the shape and size of barrels. The barrel question causes a lot of trouble to merchants, because of the difficulty in obtaining them. Granges, farmers' associations, etc., have effected a saving by purchasing barrels in carload lots, but even at that the price is a large percentage on every package of fruit

sold. Last fall some fruit growers used the "nested" barrel. These are set up with hoops left loose so they fit part way into each other. This method reduces the room required for shipment one-half. Many growers say that the saving in shipping expenses and storage are sufficient to warrant the general adoption of this method. The "knock-down" barrel is coming into general use in all the large fruit-growing districts in the state. They are cheap, little space is required in shipping, and freight and hauling charges are reduced to a minimum; and those that are left over may be stored in a small space.

Farmers' Institutes.—The State Board of Agriculture has begun a series of farmers' institutes, which will be held at convenient local centres all over the state. Great stress will be laid upon dairying. The farmers of this state have come to realize that, situated as they are, between New York and Philadelphia, there are no better markets in the world for milk, or for that matter, for anything else. Alfalfa will also occupy an important place on the program, and no less a person than Joe Wing, of Ohio, has been engaged to wake our farmers up to the vast possibilities of growing that forage crop.

Grange News.—The quarterly meeting of Mercer County Pomona Grange was held at Pennington. Over 400 farmers attended, and they placed their stamp of approval on the proposed public market for Trenton. A resolution providing for the metric system in the public schools was lost after considerable discussion. A telegram conveying congratulations was forwarded to State Senator Gaunt, master of the State Grange, upon his election as lecturer of the National Grange. Pomona will now be in order in all the counties, and they will be of great profit to every granger and farmer, whose attendance should follow as a matter of course.

Middlesex Board Meeting.—The recent meeting of the Board of Agriculture of Middlesex County, at New Brunswick, was the best in the history of that organization, and was typical of similar meetings in the state. A feature was the display of apples and field corn. Specimens of apples were shown and cash prizes distributed. Yellow dent and white dent were the principal specimens of corn shown. New Jersey is rapidly forging to the front as an apple-producing country, and now produces fruit equal to the apples of Washington, Oregon and Colorado. Dr. Lipman predicted that it will not be long before the Western apples will be forced out of the Eastern markets by the New Jersey and New York fruit, and will have to find a market in the Orient. H. N. Casson, of New York, declared that the Westerners know how to market their products better than the Eastern farmers. He said that he was in a New York store the other day and saw an apple sold for forty cents. It was highly polished and was in an ornamental paper basket on which was printed that the apple was grown by a certain farmer at a certain place and picked on a certain day, dropped into the basket and no hands had touched it until it reached the purchaser. He declared that the purchaser had paid five cents for the apple and 35 cents for sanitation. Professor Agee met the farmers of Middlesex for the first time and made an interesting address upon his plan of carrying scientific instruction direct to the farmers. Professor Farley gave an apple-packing demonstration.

School Contests.—The corn, vegetable and domestic science contests for the school children in the various counties were even more successful this year than last, altho the corn was not as

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good as expected. The weather, of course, determined this. Dr. Lipman has been present at nearly all these exhibitions and has spoken on the importance of the corn crop and the increasing need of better farming in America, now that the land is increasing in value and the cost of living is rising. He compared the standards of living in this country and Europe, declaring that Americans are as good farmers as the Europeans, but look for different results of land values.

Jewish Farmers Visit Us.—Delegates to the fifth annual convention of the Federation of Jewish Farmers of America made a recent visit to the State College Farm, where they were addressed by Director Lipman and Professor Minkler. While all departments at the farm and station were visited, the dairy barns and cattle evoked the greatest interest. The following officers were re-elected: President, Eli Greenblatt, Botsford, Conn.; vice-president, A. M. Kuntz, Iselin, N. J.; secretary, J. W. Pineus, New York; treasurer, Dr. Paul Abelson, New York.

Eggs in Storage.—A recent investigation by officials connected with the State Board of Health established the startling fact that there were 162,228,960 eggs in cold storage in the state. Even at that this number is much less than it was three or four years ago, until the speculators were badly hit by a slump in price. Fresh eggs, so-called, are selling in our cities for as much as 80 cents a dozen. How much of this the farmer gets will be seen from the following figures, which show that the average price paid is a little less than 26 cents a dozen. At this time, when eggs are worth 42 cents a dozen at the farm, the consumers are paying somebody a profit of nearly 100 percent over what the owner of the hen receives. The figures follow: 1912—October, 36 cents; November, 36 cents; December, 36 cents; 1913—January, 30 cents; February, 24 cents; March, 18 cents; April, 20 cents; May, 22 cents; June, 22 cents; July, 28 cents; August, 28 cents; September, 28 cents; October, 40 cents; November, 42 cents.—D. T. Hendrickson.

MARYLAND NOTES

Maryland Week.—The Maryland Week horticultural show was a pronounced success last week in Baltimore. It was not only the largest exhibit of products and of the finest quality ever exhibited, but the general arrangement for artistic effect and good display of the products was such that favorable comment was given by all visitors. The display of vegetables by the farmers was of a market garden quality. A grand feature was the booths representing several of the counties. The increased exhibit of apples was to be expected, and the quality kept pace with the extensive exhibit. It is recognized as an off year for apples, generally considered, but some of the growers acknowledged their crop had been about as usual. The corn display was such as to allow Maryland to hold her prestige as a genuine quality corn producer. It is also doubtful if any state could excel the quality of the special prize wheat exhibited from Howard County. The general public apparently took more interest than usual, and the city people are gradually learning that these exhibitions are as educational to them as to country people. The writer thinks there are some things that could be introduced in these exhibitions that would add to their interest and make them more educational. There should be labels in prominent type, letters at least an inch high, giving the names of all kinds of apples, pears and other

fruits, nuts, etc. The same should be done with vegetables, especially potatoes; also with the floral and plant exhibits.

Hunting Season.—Since the gunning season opened, Maryland farmers have been given much trouble by the railing gunners. In some of the counties nearly all the farmers advertise in the county papers that all trespassers with dog or gun will be prosecuted. In Frederick County several men gunning on farms without permission have been arrested and fined \$50 each. Some who could or would not pay fines were jailed.

Agricultural Carnival.—Sykesville last week held a real carnival which the farmers, by contributing to the exhibition part, made a great success. In addition to farm crops of all kind, the women made exhibits of home goodies, and a fine poultry show gave the carnival a real county fair appearance. There was a parade of decorated automobiles, horseback riders, etc. There were 106 autos in line, pretty good for a real farmers' parade. One machine was decorated with about every known vegetable the section can produce, also some fruits, intermingled with a background of asparagus brush full of red seed pods. A grand baby show, this time judged by mothers, was a feature. Carroll County babies are annually a fine large crop.

Dairy Development.—Montgomery County farmers are gradually turning their attention to dairy cattle. Mr. J. H. Bradley recently received from New York state 10 purebred Holsteins, and 16 grade Holsteins. He had to pay on average \$125 for the grades, and he says he found cows scarce and high in price. The creamery at Ridgely has suspended operation on account of scarcity of milk. It is rumored that a Philadelphia milk concern will soon buy or lease the creamery and will use it as a cooling plant for milk. Soiling crops could be raised in Caroline County that would help and prolong the profit of keeping dairy cows. The silo would be another method.—G. O. B.

INSTITUTES NEXT WEEK.

Pennsylvania.

Dec. 1-2, Gratz, Dauphin County. (C. C. Hulsart and J. H. Peachy.) Dec. 3-4, Linglestown, Dauphin Co. (C. C. Hulsart and J. H. Peachy.) Dec. 1-2, Emid, Fulton Co. (W. M. Patton and J. B. Johnston.) Dec. 1-2, Sycamore, Greene Co. (Sheldon W. Funk, H. P. Davis and M. H. McCallum.) Dec. 3-4, Orbisonia, Huntingdon Co. (W. M. Patton and J. B. Johnston.) Dec. 5-5, McAlveys Fort, Huntingdon Co. (W. M. Patton and J. B. Johnston.) Dec. 5-6, Maytown, Lancaster Co. (C. C. Hulsart, J. H. Peachy and J. B. Johnston.) Dec. 1-2, Rush, Susquehanna Co. (Fred W. Card, J. Stuart Gruppe and Prof. F. R. Stevens.) Dec. 3-4, South Montrose, Susquehanna Co. (F. W. Card, J. Stuart Gruppe, Prof. F. R. Stevens.) Dec. 5-6, Gibson, Susquehanna Co. (Fred W. Card and J. Stuart Gruppe.) Dec. 5-6, Liberty, Tioga Co. (Chas. A. Row, Mrs. Jean Kane Foulke and David E. Warner.) Dec. 3-4, Claysville, Washington Co. (Sheldon W. Funk, H. P. Davis and M. H. McCallum.) Dec. 5-6, Washington, Washington Co. (Sheldon W. Funk, H. P. Davis and M. H. McCallum.)

New Jersey.

Dec. 1, Federicktown, Salem Co. Dec. 1-2, Woolstown, Salem Co. Dec. 2, Blackwood, Camden Co. Dec. 3, Somerville, Somerset Co. Dec. 4, Wall, Monmouth Co. Dec. 4, New Market, Middlesex Co. Dec. 5, Matawan, Monmouth Co. Dec. 5, Salem, Salem Co. Dec. 5-6, Moorestown, Burlington Co. Dec. 6, Burlington, Burlington Co.

Household

A STUDY IN FARM HOMES.

The front view of the farmer's home need never be bare, and it should not be untidy. The style of house and grounds should be simple, not only for the sake of economy, but because it fits beautifully with its surroundings, if its lines suggest the honesty, hospitality and dignity of its owner's industry. The farmer needs some privacy for the brief rest he snatches at noon or evening, but he has not the space nor time for private lawns remote from the house front. Indeed he and his family prefer the more public side of the house from which the highway may be seen. To this side of the house then, will gravitate such sightly facilities for ease as hammocks, easy chairs, lawn seats, etc.

The essentials for beauty and comfort at the front of the house are fine, tall trees and a smooth, well-cut lawn.

as the mother regards it. If she thinks it should be done, she will find time for the reading, but if not she is likely to say that she is too busy.

One busy mother began some years ago to read to her children out of her own carefully saved school readers. She did not know what books were suited to the little folks, but after they were tired of her school books she sent to the publishers of those books and asked their advice. She found that she could get little primers and readers by different authors, varying in price from 20 to 30 cents, and these were a source of never-failing delight to the children. She also learned of many juvenile books and there she found bible stories, stories of animals, stories of plants and little stories of home life at reasonable rates. Those boys and girls grew up without frills on their garments, but their reading hour was as regular as the hour for eating. They rapidly went ahead of the other children in the country school, for they had minds trained to think, to listen and to reason things out for themselves.

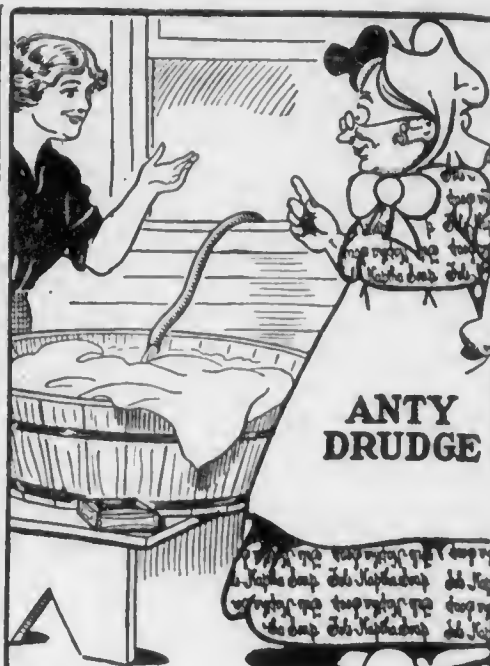
For ten and fifteen cents it is possible

bedtime. "Here a little and there a little" is the motto of many busy mothers. The best tales are saved for treats when the children have done well, and in some homes the greatest punishment that can be inflicted is to omit the reading hour.

And when the boys and girls can do their own reading the mother will feel a bit lonely that she no longer has a fringe of heads bobbing about her knee in the evening. It is delightful work and enriches the mind of the mother as much as it does the children. If any mother doesn't believe this, let her try it a year and she will be convinced.

STYLES IN WALL DECORATIONS.

If there is more than a hint of gay colors in gowns this winter, the fashion in wall coverings is just the opposite. Everything tends to soft coloring, simplicity and harmony. The day of huge designs and gaudy coloring seems over, no matter where you see wall paper displayed. The two-tone scheme is in general favor, and this is true whether you pay much or little for your paper.



Mrs. Wise: "Look here, Anty, I want to show you how easy it is to do my washing. I cut this piece of garden hose just the right length to reach from the faucet inside, to my tubs out here. See, it runs right out the window. I can fill my tubs without any trouble. And best of all, my fire's out, the kitchen nice and cool and I'm washing with cool water because I use Fels-Naptha Soap. I'm nearly done now—and it's just a little after ten!"

Anty Drudge: "Yes, and I see you buy Fels-Naptha by the box, too—you're certainly a clever woman."

Fels-Naptha is more than a soap. It is an easy, cool-water, no hard-rubbing way to do all kinds of work. It dissolves dirt so that when you come to wash clothes you don't have to rub, rub, rub up and down on the wash-board until your knuckles are sore and your clothes worn out. Just put the clothes to soak for 30 minutes in cool or lukewarm water with Fels-Naptha Soap and the hard part of your washing will be done for you.

Never boil clothes washed with Fels-Naptha Soap. Just follow the directions on the red and green wrapper.

Better buy it by the carton or box
Fels & Co., Philadelphia.



HOME OF MRS. BELLE CLARKE, MONMOUTH CO., N. J. SHOWING EFFECT OF HEDGE AND PLENTY OF SHADE.

Shrubbery can be interspersed as desired, but the shadows of tall trees on the greensward really seclude without the obscurity of shrubbery. Many farmers like to dispense with a hedge, but where the dwelling stands close to the road a hedge catches much of the dust, keeping lawn and porch cleaner. In the illustration on this page a privet hedge is used about a farmer's home which stands close to the road.—M. Roberts Conover, Monmouth Co., N. J.

Note.—This is the first of a series of illustrations to be run on this page showing attractive farm homes of our readers. The farm house is the heart and center of the farm activity, and its construction and surroundings are of as great importance to the happiness and prosperity of the farm family as any single feature on the farm. We shall be glad to receive additional photographs of farm homes of readers in which are valuable suggestions in house construction, yard arrangement or landscape planting.—The Editor.

READING TO THE LITTLE ONES.

By Hilda Richmond.

Many a busy mother thinks it is quite impossible to find time to read to her children, but others quite as busy regard the reading time as a part of the day's tasks, as much a part as eating or cooking or cleaning. It is all

to buy charming little tales for the boys and girls. Often when the mother is too ill or tired to read, she can put the story in her own language, and that pleases the children as much as to hear it read. Then too, the children grow up rapidly and learn to read for themselves and for their younger brothers and sisters, so the task is never a very long drawn-out one.

Children who are read to until they are able to read for themselves grow up with a fund of information that will last a lifetime. Pity the child who never hears from the mother's lips the fine old stories all children delight in! No matter how much the mother may toil and slave for her children, she cannot say that she has done her whole duty if she leaves their minds blank in regard to the great literature of all time. Poverty is no excuse for not doing this important task, for there are plenty of people who gladly give away good magazines and papers, while the Sunday school papers are free to all who attend.

Just before bedtime is a good time for reading, also exciting stories should never be read then. Tales of heroic deeds have their place in the child's education, but no little one should go to bed with such stories disturbing its slumbers. The tales that stir the blood and thrill the heart are for the active day, and the peaceful, gentle tales for

By the way, there never was a time when you could have a room papered so prettily for so small a sum of money.

For three dollars, a room which was dingy and dull was made so bright and cheerful that I could scarcely believe it the same room. The paper on it was an ugly red, with large floral design in brown and green. The paper put on was a two-toned cream. That is, there was a shiny stripe of rich cream and a dull stripe of rich cream. Then there was a cut-out border of yellow roses on a white-ground as a finish at the top, and a narrow border of similar design at the bottom, just above the base-board. This room is used for a bedroom, and with its white bed and ruffled Swiss curtains at the window, it looks very inviting to the weary body.

In the same house the living room was done in green and tan. The lower third of the wall was a soft, pretty green, done in panel effect, with light brown outlined with gilt. The rest of the wall was in tan chambray paper, reaching to the ceiling. This was a cream chambray with a three-inch border in the same crown and gilt, which outlined the panels. The cost of this papering was between five and six dollars.

A pretty dining room design in a wall paper exhibit is dull blue and light gray. The lower third of the wall is of blue felt paper. The upper two-thirds

a floral design in two shades of gray. A flat molding of Flemish oak separates the two colors, and makes a pretty contrast. Brown oat meal paper is much used now for the lower part of halls and for all the wall in vestibules. This is a durable paper as well as one lending itself well to blending with almost any color that may be used in papering the rooms opening from the hall.

In selecting wall coverings it is well to consider just what rooms show from the hall and other rooms, and select colors that will blend or look well together when all the doors are open. Bright rooms may stand dark shades even in blue or green, but rooms with little or no sunshine should have light paper. Cream, yellow, tan, white or light gray are better as the ground for such walls than blue or green, for the latter absorb too much light instead of reflecting it.—N. D. H.

FOUR PRETTY CHRISTMAS GIFTS.

The four Christmas gifts shown in the illustrations are inexpensive and easily and simply made. Figure 1 shows a wild rose pin-cushion. The petals are made from pink ribbon an inch wide. Two inches are cut off for each petal. Fold this in two, tack back the corners

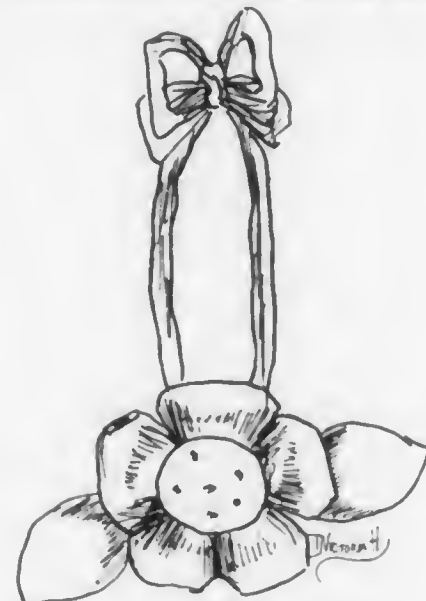


FIG. 1. WILD ROSE PIN-CUSHION.

on the under side, and then gather at the lower end. Make a little pad about three-fourths of an inch in diameter. Cover it with a small piece of the pink ribbon and sew the petals firmly to the bottom. A few French knots in this pad make it more attractive. Attach the two green leaves in any position you like and fasten narrow green ribbon at the back to hang it up by.

Figure 2 shows an attractive bag made from natural colored linen and lined with lawn of the same color. The flowers are embroidered in a simple outline or backhand stitch. They should have lines drawn across them and these



FIG. 2. LINEN WORK BAG.

lines embroidered; then go around the whole in black. Green ribbons, to match the leaves, are attractive in this bag, and the flowers may be any color desired.

Figure 3 makes an attractive and capacious workbag. It is the most easily made of all the gifts illustrated. Sew up the sides of a piece of silk or any pretty material so as to form an oblong, much like a small pillow-case. Sew the top edges over two embroidery hoops, then catch up the corners of the bag on the under side and sew firmly

to the edge. Wind the hoops with ribbon to match the bag, tie a pretty bow on one of them and the bag is complete.

Figure 4 shows a handkerchief holder and sachet to match. It is made from flowered ribbon folded three times to



FIG. 3. WORK BAG.

form an envelope. The sides are over-cast with silk thread (ravelings from the ribbon will do) and hooks and eyes or snaps are sewed on the flaps to fasten the holder. Two little bows of narrow ribbon may be sewed on the corners of the flap to hide places where the fasteners were attached. The little sachet is easily made and also has a small bow

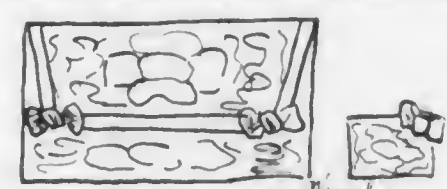


FIG. 4. HANDKERCHIEF HOLDER.

in the corner. A pretty handkerchief adds greatly to this little gift.—Deborah D. Hitchcock.

Note.—Miss Hitchcock is but fourteen years old. The above descriptions are just as she gave them to us, and the illustrations are reproduced from drawings made by her.—The Editors.

TO ERADICATE BED BUGS.

From their habit of concealment bed bugs, or Cimex Scutellaris, are usually beyond the reach of powders, and the ordinary insect powders such as pyrethrum are of practically no value. The eradication of the insect is comparatively easy from iron and brass bedsteads, but wooden bedsteads offer a much more difficult problem. Very liberal applications of benzine or kerosene, or any petroleum oil, is the most practical way to meet this difficulty. This must be introduced into all crevices with small brushes or feathers, or by injecting with small syringes. Corrosive sublimate is also of value, and oil of turpentine may be used in the same way. The liberal use of boiling hot water, wherever it may be employed without danger to furniture, etc., is also an effectual method of destroying both eggs and active adults.

Various remedies and mixtures for this pest are for sale, most of them containing one or another of the ingredients mentioned, and these are frequently of value. A daily inspection of beds and bedding and all crevices and locations about the premises is the best method to use. A vigorous campaign should, in the course of a week or so at the outside, result in the extermination of this very obnoxious and embarrassing pest.

In the case of rooms containing books, or where liquid applications are

inadvisable, a thoro fumigation with brimstone is an effective means of destruction. The method is as follows: Place in the center of the room a dish containing about 4 ounces of brimstone, within a larger vessel, so that the possible overflowing of the burning mass may not injure the carpet or set fire to the floor. After removing from the room all such metallic surfaces as might be affected by the fumes, close every aperture, even the keyholes, and set fire to the brimstone. When four or five hours have elapsed the room may be entered and the windows opened for a thoro airing.

CRITICAL CHILDREN.

Don't encourage the "critical" faculty in your young children. Don't let them hear you discuss the merits or the failings of your friends, otherwise the little people will soon fall into the habit of doing it themselves. More especially, never let them hear you call attention to the plainness or the physical defect of somebody you know. The child who looks upon all alike, to whom each person who is kind appears beautiful, is the child who surrounds itself with friends. The critical one—never! —Mrs. J. J. O'Connell.

Apple Tarts.—Line patty tins with rich pie crust and pare and slice firm apples into these tins. Sprinkle over the apples with sugar, a bit of cinnamon or nutmeg, as preferred, and a very little water in each tart. Cover with strips of paste and bake in a moderate oven. A small mound of meringue on top of each tart, put in the oven until brown, will add greatly to the appearance of the dish.

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5127—Ladies' Corset Cover.—Cut in 6 sizes, 36 to 46 inches, bust measure. Size 36 requires 14 yards of 27-inch material. Price, 10 cents.

4706—Boys' Double-Breasted Overcoat.—Cut in sizes 2, 4, 6 and 8 years. For 4 years it requires 14 yards, 54 inches wide; 4-yard velvet, 20 inches

wide (cut bias) for collar. Price, 10 cents.



5328—Children's Box Coat.—Cut in sizes 2, 4, 6, 8, 10 and 12 years. The 8-year size, of one material, requires 3 yards of 36 or 14 yards of 44-inch material. Price, 10 cents.

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Grange

NATIONAL GRANGE PROCEEDINGS.

The 47th session of the National Grange will go down in history as the largest in respect to attendance and seventh degree class ever known. It will be many a year before this record will be broken, and we predict that New England will have to do the breaking when it is done next time. It was, moreover, a business session with little that distracted attention from the duties of the convention. The people of Manchester entertained royally, yet little time was taken from the work of the grange for entertainment.

In the multitude of matters that sought consideration at the hands of the delegates, and in the very midst of them, came the revision of the Digest of Rules and Regulations in reference to grange trials, which of itself occupied about a full day's time of the hardest kind of application and continued effort. This put the regular work of the meeting back by so much, and it was late Friday night when adjournment was taken. The next day the delegates were the guests of the state or some of the near-by cities of the state on a trip to the state college and other points of interest.

Many of the public questions that are commanding the attention of the farmers, and in which their welfare is to a greater or less degree involved, were before the grange for consideration. Taxation was one of them. Personal property should contribute its share to the revenues from taxation, the grange affirmed. It found no solution of the present tax problems in the laws as they now exist, but it looks to a uniform system of taxation in all the states for the remedy. Tax dodging by removal from one state to another should be circumvented in some way, and uniform tax laws would help do it. A tax on income was believed to be the most just and equitable plan. If the national government can uncover millions that have been escaping taxation these many years, it would seem to be an opportune time for the states to take up this matter and assess these millions that the farmer and other real estate owners may be relieved of the burdens they have been hearing, at least, to some extent.

In the matter of our coast trade, it was the sentiment of the convention that free ports should be established, especially at the terminal of the Panama canal, and likewise along the coast. Congress is to be urged to take such action. In regard to the Mexican situation, as thus far revealed, the grange found itself in hearty accord with President Wilson. It authorized the sending of a message to him endorsing his position in the situation.

Less congratulatory was the grange, however, in respect to the President's attitude toward the farmers' wishes when, about a year ago, and prior to his selection of a Secretary of Agriculture, its committee conferred with the President-elect and described the sort of a man the grange would like to see in the important position of Secretary of Agriculture. The report of the committee, presented at this meeting, was deemed by some a rather caustic criticism, in some respects, on the President's selection of a Secretary. Newspapers were demanding to know why the grange took this position and wondered how it dared be quite so bold and assertive of its opinions. It was another instance of "scare heads" and

"double leads." It may be safely said that the grange did not see in Secretary Houston quite its ideal of what the head of a farmers' department should be, but it is willing to be convinced that the right man is in the place and will stand by him, at least until he has had a fair trial. And it hopes its preconceived notions may have been mistaken ones.

The grange is a peaceful organization, at any rate so far as concerns our national relations with foreign countries. Sometimes its own internal affairs might seem to warrant their reference to a Hague conference or tribunal, were we to judge altogether by what the enterprising daily press says of them. But the grange wants another Hague conference in 1915, and asks it to provide for the arbitration of all international disputes which cannot be settled otherwise, and it commends the utterance of Right Honorable Winston Churchill when he said that Great Britain is ready to co-operate with other countries in a year's suspension of the building of battleships. It also approved Secretary Bryan's doctrine of arbitration treaties, and particularly his idea of having the nations think it over a year before taking up the cudgel against one another.

Concerning farm credits the grange set itself in opposition to any plan which does not include a direct reduction of the prevailing rates of interest as well as provide for a long term of small annual payments upon farm mortgages, and further says that the government should borrow money at a rate of interest not to exceed 3½ percent and loan it to needy farmers at not to exceed 4½ percent on long-term, farm-land mortgages.

The Committee on Finance submitted the following: We recommend that the voting members and officers receive four dollars per day for time necessary to reach the place of sessions and return therefrom, and three cents per mile for distance traveled by the nearest practical route in coming to and returning therefrom. We recommend that \$100,000 be retained in the treasury for permanent investment, and that such surplus over said amount as may accrue after payment of running expenses and salaries, be placed at the disposal of the Executive Committee to be used for extension work as follows: Not exceeding \$2,000 to be expended in each state entitled to representation at this session of the National Grange in co-operation with the approval of the Masters of States where used. Not exceeding \$5,000 for extending the Order in states not now entitled to representation in the National Grange. The report was adopted.

Proportional Representation.—The question of proportional representation was again up for consideration. A resolution on this subject was presented by Mr. Kegley, and was as follows: Resolved, That representation in the National Grange shall be amended to provide that every State Master and wife or husband, shall have each one vote on all questions. On roll call every State Master and wife or husband, shall have one vote each, and for every 10,000 members or major fraction thereof, above the first 10,000 shall have one vote each additional.

The discussion of the resolution was general, some arguing that the increased voting power should not be vested in the present two delegates, others that it was the wise intention of the founders to give each state two votes as state votes, while others from the smaller states, fearing the increased power that would be thus given to the strong grange states, were opposed to the change. Other delegates believe the grange should represent population

—grange population—after the manner of the lower House of Congress. Vote being taken on the recommendation of the committee, which was adverse to the resolution, the committee was sustained by a vote of 40 to 14.

The resolution favoring a referendum vote in National, State and Subordinate granges was defeated. The proposed change of date from December to November for the election of officers in subordinate granges, if any state so desires, did not prevail. A proposition to give such states as desire to hold the annual election of officers in subordinate granges that privilege, was adopted. It being necessary to change the By-laws, this action must now be ratified by the several state granges.

Delaware was chosen as the next place of meeting of the National Grange.

The bi-ennial election of officers resulted as follows: Master Oliver Wilson, of Illinois; Overseer W. H. Vary, of New York; Lecturer, G. W. F. Gaunt, of New Jersey; Steward, F. C. Bancroft, of Delaware; Assistant Steward, J. A. Sherwood, of Connecticut; Chaplain, A. P. Reardon, of Kansas; Treasurer, Mrs. E. S. McDowell, of Massachusetts; Secretary, C. M. Freeman, of Ohio; Gate Keeper, C. L. Rice, of Minnesota; Ceres, Mrs. Richard Pattee, of New Hampshire; Flora, Mrs. J. A. Peckham, of Rhode Island; Lady Assistant Steward, Mrs. Mabel Harland, of Idaho; Member Executive Committee, A. B. Judson, of Iowa.

McSPARRAN'S GRANGE NOTES.

Improvement in Telephone Service.

One of the most provoking things in relation to telephone service is to call up some one who has telephone connection and to be told by the exchange operator that the person called has another phone. This is no uncommon experience when the number of local companies is taken into consideration. The great inconvenience of such a condition is not so appreciable in the city, where one can go a short distance and get the use of the other phone in most cases, but in the country you are, as a rule, tied down to the use of one phone, and if the person with whom you wish to communicate is not in the same or an allied company you are practically cut off from this great convenience so far as that person is concerned.

It was a great day for country people when the telephone began to reach out from the city, and so great a convenience was it found to be that people were willing to submit to many practices that are bad in operation. But the day for the looking upon the telephone as a sort of luxury is past. It has become a necessity, and as a consequence the service rendered must be a service suited to the needs of present-day business. It will not be long until these heavily-loaded party lines where you are compelled so often to wait and wait before you can get service, will be a thing of the past. Night service and Sunday service will, ere long, be a general practice, if not so already. But all such improvements cost in operating expenses, and the question comes as to how these improvements are to be made. It would seem that the final solution of the problem will be government ownership, and most surely it will be government ownership if the private ownership is disposed to give just as little convenience in service as the traffic will bear.

The telephone companies are undoubtedly standing in their own light by not joining their lines for thru service. Long ago the railroads were compelled to take cars from other lines and deliver them to their destination,

whether the two roads were on friendly terms or not. And the time will come when telephone and telegraph companies will be compelled to do this if they are so shortsighted as not to do this before compulsion is pressed. It would mean only a slight outlay, because trunk lines connecting exchanges could be run on lines already built. And in country districts the interline business done would practically be all extra business, for which an extra charge would be collected.

This is a benefit that the Grange ought to labor to secure for the country people of Pennsylvania. The local companies are not to blame so much as the big companies which are striving for monopoly of business. We should state our case to these companies and, if they will not hear us, start a campaign for compulsory legislation similar to that affecting the railroads. If we were to throw into this subject a little of the snap and vigor that went toward the defeat of the bond issue, victory would soon be ours. We are, I feel sure, a unit upon the benefit and need of such interline service, and many of our local companies will, no doubt, be with us, as it would relieve them of depending upon one big company for long distance work. A general interline service with zone rates that would not be prohibitive would bring us, as country people, together as well as enlarge the scope of our business possibilities.—John A. McSparran.

WHY BLOCKED ROADS?

During the second week of November a blizzard hit the western end of Pennsylvania and blockaded many of the roads. My wife and I happened to pass thru its outer edge enroute from Pittsburgh to Chicago. The thing which happened was what always happens when road officials are not efficiently discharging their responsibilities. Traffic was held up. Even rural mail carriers could not get thru the drifts along their routes. Such a condition didn't just last for one day or for two days—it lasted for nearly a week.

I am not speaking of the township roads which the township supervisors are responsible for. I am referring to the official state highways taken out of the township's control under the Sproul road law. The township roadways were shoveled clear, so as to be passable for country hauling and transient traffic. But the state department's Sproul roads were passively permitted to remain impassable with their accumulations of the "beautiful white."

I read in a Philadelphia daily that a postmaster to whom the rural mail carriers would deliver their complaints, sent a telegram to the Highway Commissioner. The message ran "Mail roads under state control impassable from snow. No effort being made to open same. Ask for action." All the satisfaction the folks got who had to suffer from the snow blockade was a reply wire from the chief engineer at Harrisburg, who said: "No funds available to open state highways." Meanwhile the state highway department let the blockade of snow enjoy itself by slowly melting away instead of shoveling the drifts away and opening up proper traffic passageways for travel.

The thing which most strike every observer about the above reply is the chronic cry—almost a "yell"—of "No money." It is quite evident that the chief engineer has not taken into consideration the necessity of having some practical work done in a blizzard, which is a type of work that is not described in the engineering text books. Otherwise the state highway depart-

ment would be ready to handle snowstorms when they blockaded their Sproul roadways. This is the phase of the administration's work which has been proving so utterly inefficient. It is the lack of methods which dominates their entire department when it comes to downright practical work. All we have been hearing is "no money;" "we can't do any road work without the money," etc.

My suggestion to the department is to find a way to get the roads intelligently patrolled. If it will have road patrolmen with horses, farm road rollers, harrows and road drags to keep the roads open while it's snowing, it will get results which will warrant placing at its disposal more money. It is the easiest thing in the world to blame one's failure and inefficiency on some one else. In this case "the other fellow" represents the farmers of Pennsylvania who are dissatisfied with present road methods. Instead of getting out and doing some downright hard work to help make conditions better, the plea of "no money" is continued.—Dr. Donald McCaskey, Lancaster Co., Pa.

Looking Over The Fence.

By THE COUNTRY PARSON.

Are Farmers Slow in Accepting New Teachings?

It has long been the custom to poke fun at the farmer because of what people call his extreme slowness to accept and apply the teachings of agricultural science. There may or may not be some justification for this insistence upon representing the American farmer as being so given over to mental sloth that he has no appreciation of all the wonderful discoveries Uncle Sam's Department of Agriculture, together with the various state experiment stations, have made for his particular benefit. I must say that I have not found him to be any less slow to see what might redound to his interest than the American merchant or manufacturer. But this is not the point I wish to make.

What I am trying to get at is this: Has any one ever said that our agricultural scientists are somewhat to blame for this state of mind in the American farmer? These men, together with all other "scientists," constantly speak as if the "laws" of science were immutable facts and eternal statements of verity. Now is it not true that our knowledge of nature and nature's forces can never be absolute, but always must be only relative? The varied phenomena and facts of nature are so many that no human mind can at one and the same time grasp more than a few of these facts, which are thus separated from thousands of others equally vital and important. These facts are classified; a theory, a "law" is formed. This theory can at the most be only an approximation to the truth. It may furnish us with a good working hypothesis. Soon other facts are discovered. A new theory is evolved. A new law is laid down.

Thus Conrad Gessner and the early zoologists began to classify animals according to the number of their horns. As fresh facts appeared it soon became impossible to hold to this system of classification and any "laws" deduced from it. New statements and new "laws" became necessary. This process of study and classification is the rule in every field of science. Our knowledge is always in a state of flux and readjustment.

Instead of frankly admitting this, we

find our scientists laying down "laws" with a degree of dogmatic assurance that is positively appalling. Here is one man who bases his entire theory upon the teachings of Baron von Liebig, and insists that the whole secret of permanent agriculture is to be solved by simply re-enforcing organic manures with phosphorus and adding ground limestone on acid soils. Excepting the nitrogen-fixing bacteria of the legumes, he pays no attention whatever to the new science of bacteriology as applied to agronomy.

Here comes another and says: "That the soil cannot wear out; that so far as the mineral food is concerned, it will continue automatically to supply adequate quantities of this mineral plant food for crops." (United States Bureau of Soils, Bulletin No. 55, p. 79). This is coupled with a theory of crop excreta, which prevents the growth of the same crop until the soil has been cleansed and purified by a rotation to other, dissimilar crops.

The first man rejects this as a "pernicious, disproved and condemnable doctrine." The other man maintains his theory and seeks new facts to support it. Whom is the farmer to believe? The farmer asks himself if it may not be possible that both are right and both are wrong, because both have only relative and partial knowledge. It may be true that the fertility of a soil is diminished to the extent that a part of its mineral constituents enter into the growth of a certain plant. It may also be true that the mineral elements of the soil necessary to the growth of plants are practically indestructible.

But these elements may not be present in sufficient quantities and in available form. It may be quite possible that, just as certain bacteria in connection with certain plants have the power to make available the nitrogen of the air, so other bacteria in connection with other plants have the power to make available other elements of plant food. My observation of the experimental grass plots at College Park, Maryland, would indicate that those plants which take their nitrogen from the air are not benefited by the application of nitrate of soda. Whether mixed grasses are sown and nitrate applied, the timothy and redtop invariably crowd out the clover. Why is this?

Meanwhile the advocates of these two conflicting theories, refusing to see any good in each other, vociferously argue and debate with all the partisan fervor of a "goldbug" and a free silverite discussing "sixteen to one." If they think of the farmer at all, it is only to complain of his extreme slowness to accept their teachings and obey their "laws." The farmer looks on and asks himself, if both of them, seeing but a little arc of nature's great circle, have not gone off on a tangent.

The simplest solution is offered by the practical fertilizer manufacturer who merely points to results. If the farmer accepts his solution, he is again lectured on his ignorance. Does it not seem that our scientists in agriculture might learn something from our politicians? If the politician lacks the cardinal virtue of modesty, he at least makes some pretense of assuming it. He always has "an open mind." He is always ready to take a matter "under advisement"—to "give it full consideration." The infinite variety and complexity of the facts presented by the science of economics compel him to take this wise and politic position.

The facts presented by the science of agriculture are no less numerous nor complex. I therefore sometimes wish that the agricultural scientist would take a leaf out of the politician's book and assume a virtue if he have it not.

If he did that, there would, perhaps, be less cause for complaint of the frightful obtuseness of the farmer, who is said to be so slow to accept and apply the teachings of agricultural science.

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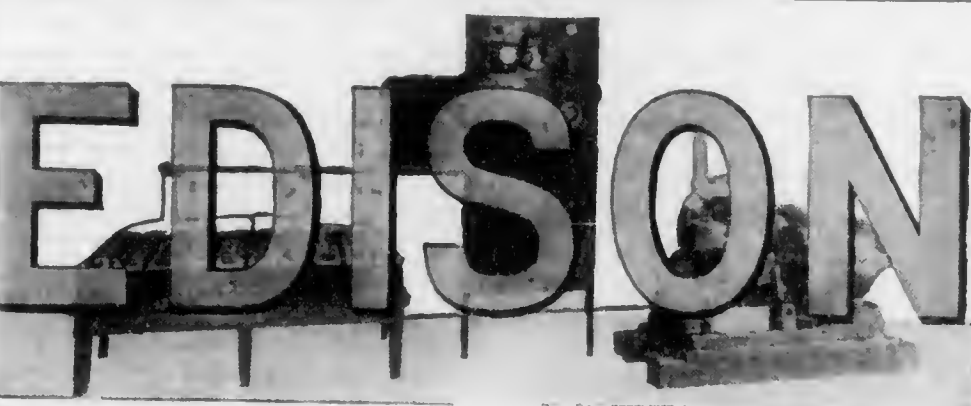
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Winston of the Prairie

By HAROLD BINDLOSS

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SYNOPSIS OF PREVIOUS CHAPTERS.

Farmer Winston, having failed as a home-steader, desperate, accepts a proposal to simulate Lance Courthorne, an adventurer. Courthorne and his pals are thus able to carry thru some smuggling operations. In the clash with the police, Courthorne kills Trooper Shannon, leaving evidence pointing to Winston as the murderer. The scene shifts to Silverdale, founded by Colonel Barrington. The Colonel is worried over wheat operations and the coming advent of Lance Courthorne, cousin to Maud Barrington, niece and ward of Colonel Barrington, to claim his share of his father's estate. Maud Barrington is told of Courthorne's past misdeeds. Winston, meanwhile, has pushed on to Montana, being held and later released, for lack of evidence, by a government officer, who discloses the belief on the part of the police, that Winston is the murderer of Trooper Shannon. A letter for Courthorne is opened by Winston. Complying with instructions therein, he meets and confers with a lawyer respecting Courthorne's inherited acres at Silverdale, and following out his role as simulator of Courthorne, goes to Silverdale and is there received as graciously as could be expected. Some of his actions fail to tally with Courthorne's reputation. He wins the good will of Dane, one of the Colonel's advisers. The real Courthorne, who was supposed to have been drowned during the smuggling adventure, now reappears in Montana, inadvertently learns of his inheritance, and pieces together conclusive evidence that Winston has gone to Silverdale. Courthorne and Alby Blake, whose life he has blighted, agree to ignore each other's identity. Winston and Maud Barrington, driving to Silverdale at a fast pace in an attempt to avoid a storm, are compelled to take shelter overnight in a deserted shed. In the morning he hastens on foot to get the Colonel and a team. He has just finished a manly explanation of their enforced delay.

CHAPTER XI.—Concluded.

The older man stood very still regarding him intently, until he said, "I don't mind admitting that it was distinctly regrettable!"

Winston stopped him with a gesture. "It was at least unavoidable, sir. The team would not face the snow, and no one could have reached the Grange alive."

"No doubt you did your best—and, as a connection of the family, I am glad it was you. Still—and there are cases in which it is desirable to speak plainly—the affair, which you will, of course, dismiss from your recollection, is to be considered as closed now."

Winston smiled, and a trace of irony he could not quite repress was just discernible in his voice. "I scarcely think that was necessary, sir. It is, of course, sufficient for me to have rendered a small service to the distinguished family which has given me an opportunity of proving my right to recognition, and neither you, nor Miss Barrington, need have any apprehension that I will presume upon it!"

Barrington wheeled round. "You have the Courthorne temper, at least, and perhaps I deserved this display of it. You acted with commendable discretion in coming straight to me—and the astonishment I got drove the other aspect of the question out of my head. If it hadn't been for you, my niece would have frozen."

"I'm afraid I spoke unguardedly, sir, but I am very tired. Still, if you will wait a few minutes, I will get the horses out without troubling the hired man."

Barrington made a little gesture of comprehension, and then shook his head. "You are fit for nothing further, and need rest and sleep."

"You will want somebody, sir," said Winston. "The snow is very loose and deep."

He went out, and Barrington, who looked after him with a curious expression in his face, nodded twice as if in approval. Twenty minutes later, he took his place in the sleigh that slid away from the Grange, which lay a league behind it when the sunrise flamed across the prairie. The wind had gone, and there was only a pitiless brightness and a devastating cold, while the snow lay blown in wisps, dried and

dusty and fine as flour by the frost. It had no cohesion, the runners sank in it, and Winston was almost waist-deep when he dragged the floundering team thru the drifts. A day had passed since he had eaten anything worth mention, but he held on with an endurance which his companion, who was incapable of rendering him assistance, wondered at. There were belts of deep snow the almost-buried sleigh must be dragged thru, and tracts from which the wind had swept the dusty covering, leaving bare the grasses the runners would not slide over, where the team came to a standstill, and could scarcely be urged to continue the struggle.

At last, however, the loghouse rose, a lonely mound of whiteness, out of the prairie, and Winston drew in a deep breath of contentment when a dusky figure appeared for a moment in the doorway. His weariness seemed to fall from him, and once more his companion wondered at the tirelessness of the man, as floundering on foot beside them he urged the team thru the powdery drifts beneath the big birch bluff. Winston did not go in, however, when they reached the house, and when, five minutes later, Maud Barrington came out, she saw him leaning with a drawn face very wearily against the sleigh. He straightened himself suddenly at the sight of her, but she had seen sufficient, and her heart softened towards him. Whatever the man's history had been he had borne a good deal for her.

The return journey was even more arduous, and now and then Maud Barrington felt a curious throb of pity for the worn-out man, who, during most of it, walked beside the team; but it was accomplished at last, and she contrived to find means of thanking him alone when they reached the Grange.

Winston shook his head, and then smiled a little. "It isn't nice to make a bargain," he said. "Still, it is less pleasant now and then to feel under an obligation, tho there is no reason why you should."

Maud Barrington was not altogether pleased, but she could not blind herself to facts, and it was plain that there was an obligation. "I am afraid I cannot quite believe that, but I do not see what you are leading to."

Winston's eyes twinkled. "Well," he said reflectively, "I don't want you to fancy that last night commits you to any line of conduct in regard to me. I only asked for a truce, you see."

Maud Barrington was a trifle nettled. "Yes?" she said.

"Then, I want to show you how you can discharge any trifling obligation you may fancy you may owe me, which of course would be more pleasant to you. Don't allow your uncle to sell any wheat forward for you, and persuade him to sow every acre that belongs to you this spring."

"But however would this benefit you?" asked the girl.

Winston laughed. "I have a fancy that I can straighten up things at Silverdale, if I can get my way. It would please me, and I believe they want it. Of course a desire to improve anything appears curious in me!"

Maud Barrington was relieved of the necessity of answering, for the Colonel came up just then, but, moved by some sudden impulse, she nodded as if in agreement.

It was afternoon when she awakened from a refreshing sleep, and descending

to the room set apart for herself and her aunt, sat thoughtfully still a while in a chair beside the stove. Then, stretching out her hand, she took up a little case of photographs and slipped out one of them. It was a portrait of a boy and pony, but there was a significance in the fact that she knew just where to find it. The picture was a good one, and once more Maud Barrington noticed the arrogance, which did not, however, seem out of place there in the lad's face. It was also a comely face, but there was a hint of sensuality in it that marred its beauty. Then with a growing perplexity she compared it with that of the weary man who had plodded beside the team. Winston was not arrogant, but resolute, and there was no stamp of indulgence in his face. Indeed, the girl had from the beginning recognized the virility in it that was tinged with asceticism and sprang from a simple strenuous life of toil in the wind and sun.

Just then there was a rustle of fabric, and she laid down the photograph a moment too late, as her aunt came in. As it happened, the elder lady's eyes rested on the picture, and a faint flush of annoyance crept into the face of the girl. It was scarcely perceptible, but Miss Barrington saw it, and tho she felt tempted, did not smile.

"I did not know you were down," she said. "Lance is still asleep. He seemed very tired."

"Yes," said the girl. "That is very probable. He left the railroad before daylight, and had driven round to several farms before he came to Macdonald's, and he was very considerate. He made me take all the furs, and, I fancy, walked up and down all night long, with nothing on but his indoor clothing, tho the wind went thru the building, and one could scarcely keep alive a few feet from the stove."

Again the faint flicker of color crept into the girl's cheek, and the eyes that were keen as well as gentle noticed it.

"I think you owe him a good deal," said Miss Barrington.

"Yes," said her niece, with a little laugh which appeared to imply a trace of resentment. "I believe I do, but he seemed unusually anxious to relieve me of that impression. He was also good enough to hint that nothing he might have done need prevent me being—the right word is a trifle difficult to find—but I fancy he meant unpleasant to him if I wished it."

There was a twinkle in Miss Barrington's eyes. "Are you not a trifle hard to please, my dear? Now, if he had attempted to insist on a claim to your gratitude you would have resented it."

"Of course," said the girl reflectively. "Still, it is annoying to be debarred from offering it. There are times, aunt, when I can't help wishing that Lance Courthorne had never come to Silverdale. There are men who leave nothing just as they found it, and whom one can't ignore."

Miss Barrington shook her head. "I fancy you are wrong. He has offended, after all!"

She was pleased to see her niece's face relax into a smile that expressed unconcern. "We are all exacting now and then," said the girl. "Still, he made me promise to give him a fair trial, which was not flattering, because it suggested that I had been unnecessarily harsh, and then hinted this morning that he had no intention of holding me to it. It really was not gratifying to find he held the concession he asked for of so small account. You are, however, as easily swayed by trifles as I am, because Lance can do so wrong since he kissed your hand."

"I really think I liked him the better for it," said the little silver-haired lady. "The respect was not assumed, but wholly genuine, you see, and, whether I was entitled to it or not, it was a good deal in Lance's favor that he should offer it to me. There must be some good in the man who can be moved to reverence anything, even if he is mistaken."

"No man with any sense could help adoring you," said Maud Barrington. "Still, I wonder why you believe I was wrong in wishing he had not come to Silverdale?"

Miss Barrington looked thoughtful. "I will tell you, my dear. There are few better men than my brother, but his thoughts, and the traditions he is bound by, are those of fifty years ago, while the restless life of the prairie is a thing of today. We have fallen too far behind it at Silverdale, and a crisis is coming that none of us are prepared for. Even Dane is scarcely fitted to help my brother to face it, and the rest are either over-fond of their pleasure or untrained boys. Brave lads they are, but none of them have been taught that it is only by mental strain, or the ceaseless toil of his body, the man without an inheritance can win himself a competence now. This is why they want a leader who has known hardship and hunger, instead of ease, and won what he holds with his own hand in place of having it given him."

"You fancy we could find one in such a man as Lance has been?"

Miss Barrington looked grave. "I believe the prodigal was afterwards a better as well as a wiser man than the one who stayed at home, and I am not quite sure that Lance's history is so nearly like that of the son in the parable as we have believed it to be. A residence in the sty is apt to leave a stain which I have not found on him, tho I have looked for it."

The eyes of the two women met, and, tho nothing more was said, each realized that the other was perplexed by the same question, while the girl was astonished to find her vague suspicions shared. While they sat silent, Colonel Barrington came in.

"I am glad to see you looking so much better, Maud," he said, with a trace of embarrassment. "Courthorne is still resting. Now, I can't help feeling that we have been a trifle more distant than was needful with him. The man has really behaved very discreetly. I mean in everything."

This was a great admission, and Miss Barrington smiled. "Did it hurt you very much to tell us that?" she asked. The Colonel laughed. "I know what you mean, and if you put me on my mettle, I'll retract. After all, it was no great credit to him, because blood will tell, and he is, of course, a Courthorne."

Almost without her intention, Maud Barrington's eyes wandered towards the photograph, and then looking up she met those of her aunt, and once more she saw the thought that troubled her in them.

"The Courthorne blood is responsible for a good deal more than discretion," said Miss Barrington, who went out quietly.

Her brother appeared a trifle perplexed. "Now, I fancied your aunt had taken him under her wing, and when I was about to suggest that, considering the connection between the families, we might ask him over to dinner occasionally, she goes away," he said.

The girl looked down a moment, for realizing that her uncle recognized the obligation he was under to the man he did not like, she remembered that she herself owed him considerably more, and he had asked for something in return. It was not altogether easy to

grant, but she had tacitly pledged herself, and turning suddenly she laid a hand on Barrington's arm.

"Of course, but I want to talk of something else just now," she said. "You know I have very seldom asked you questions about my affairs, but I wish to take a little practical interest in them this year."

"Yes?" said Barrington, with a smile. "Well, I am at your service, my dear, and quite ready to account for my stewardship. You are no longer my ward, except by your own wishes."

"I am still your niece," said the girl, patting his arm. "Now, there is, of course, nobody who could manage the farming better than you do, but I would like to raise a large crop of wheat this season."

"It wouldn't pay," and the Colonel grew suddenly grave. "Very few men in the district are going to sow all their holding. Wheat is steadily going down."

"Then if nobody sows there will be very little, and shouldn't that put up the prices?"

Barrington's eyes twinkled. "Who has been teaching you commercial economy? You are too pretty to understand such things, and the argument is fallacious, because the wheat is consumed in Europe; and even if we have not much to offer, they can get plenty from California, Chile, India, and Australia."

"Oh, yes—and Russia," said the girl. "Still, you see, the big mills in Winnipeg and Minneapolis depend upon the prairie. They couldn't very well bring wheat in from Australia."

Barrington was still smiling with his eyes, but his lips were set. "A little knowledge is dangerous, my dear, and if you could understand me better, I could show you where you were wrong. As it is, I can only tell you that I have decided to sell wheat forward and plow very little."

"But that was a policy you condemned with your usual vigor. You really know you did."

"My dear," said the Colonel, with a little impatient gesture, "one can never argue with a lady. You see—circumstances alter cases considerably."

He nodded with an air of wisdom as tho that decided it, but the girl persisted. "Uncle," she said, drawing closer to him with lithe gracefulness, "I want you to let me have my own way just this once, and if I am wrong, I will never do anything you do not approve of again. After all, it is a very little thing, and you would like to please me."

"It is a trifle that is likely to cost you a great deal of money," said the Colonel dryly.

"I think I could afford it, and you could not refuse me."

"As I am only your uncle, and no longer a trustee, I could not," said Barrington. "Still, you would not act against my wishes!"

His eyes were gentle, unusually so, for he was not as a rule very patient when any one questioned his will, but there was a reproach in them that hurt the girl. Still, because she had promised, she persisted.

"No," she said. "That is why I would be ever so much nicer if you would just think as I did."

Barrington looked at her steadily. "If you insist, I can at least hope for the best," he said, with a gravity that brought a faint color to the listener's cheek.

It was next day when Winston took his leave, and Maud Barrington stood beside him, as he put on his driving furs.

"You told me there was something you wished me to do, and, tho it was

difficult, it is done," she said. "My holding will be sown with wheat this spring."

Winston turned his head aside a moment, and apparently found it needful to fumble at the fastenings of the furs, while there was a curious expression in his eyes when he looked around again. "Then," he said, with a little smile, "we are quits. That cancels any little obligation which may have existed."

He had gone in another minute, and Maud Barrington turned back into the stove-warmed room very quietly. Her lips were, however, somewhat closely set.

CHAPTER XII.

Speed the Plow.

Winter had fled back beyond the barrens to the lonely North at last, and tho here and there a little slushy snow still lay soaking the black loam in a hollow, a warm wind swept the vast levels, when one morning Colonel Barrington rode with his niece and sister across the prairie. Spring comes suddenly in that region, and the frost-bleached sod was steaming under an effulgent sun, while in places a hardy flower peeped thru. It was six hundred miles to the forests on the Rockies' eastern slope, and as far to the Athabascan pines, but it seemed to Maud Barrington that their resinous sweetness was in the glorious western wind, which awoke a musical sighing from the sea of rippling grass. It rolled away before her in billows of lustrous silver-gray, and had for sole boundary the first upward spring of the arch of cloudless blue, across which the vanguard of the feathered host pressed on, company by company, towards the Pole.

The freshness of it all stirred her blood like wine, and the brightness that flooded the prairie had crept into her eyes, for those who bear the iron winter of that lonely land realize the wonder of the reawakening, which in a little space of days dresses the waste, that has lain for months white and silent as the dead, in living green. It also has its subtle significance that the grimmest toiler feels, and the essence of it is hope eternal and triumphant life. The girl felt the thrill of it, and gave thanks by an answering brightness, as the murmuring grasses and peeping flowerets did, but there was behind her instinctive gladness a vague wonder and expectancy. She had read widely, and seen the life of the cities with understanding eyes, and now she was to be provided with the edifying spectacle of the gambler and outcast turned farmer.

Had she been asked a few months earlier whether the man who had, as Courthorne had done, cast away his honor and wallowed in the mire, could come forth again and purge himself from the stain, her answer would have been coldly skeptical, but now with the old familiar miracle and what it symbolized before her eyes, the thing looked less improbable. Why this should give her pleasure she did not know, or would not admit that she did, but the fact remained that it was so.

Trotting down the slope of the next rise, they came upon him, as he stood by a great breaker plow with very little sign of dissolute living upon him. In front of him the quarter-mile furrow led on beyond the tall sighting poles on the crest of the next rise, and four splendid horses, of a kind not very usual on the prairie, were stamping the steaming clouds at his side. Bronzed by frost and sun, with his brick-red neck and arch of chest revealed by the coarse blue skirt that, belted at the waist, enhanced his slenderness, the repentant

prodigal was at least a passable specimen of the animal man, but it was the strength and patience in his face that struck the girl, as he turned towards her, bareheaded, with a little smile in his eyes. She also noticed the difference he presented with his ingrained hands and the stain of the soil upon him, to her uncle, who sat his horse, immaculate as usual, with gloved hand on the bridle, for the Englishmen at Silverdale usually hired other men to do their coarser work for them.

"So you are commencing in earnest in face of my opinion?" said Barrington. "Of course, I wish you success,

but that consummation appears distinctly doubtful."

Winston laughed as he pointed to a great machine which, hauled by four horses, rolled towards them, scattering the black clouds in its wake. "I'm doing what I can to achieve it, sir," he said. "In fact, I'm staking something heavily. That team with the gang plows and cultivators cost me more dollars than I care to remember."

"No doubt," said Barrington dryly.

"Still, we have always considered oxen good enough for breaking prairie at Silverdale."

(To be continued.)



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Veterinary

(Conducted by W. C. Fair, V. S.)
(Advice thru this department is free to our subscribers. Each communication should state history and symptoms of the case in full; also name and address of writer. Initials only will be published. When reply by mail is requested, it becomes private practice, and a fee of \$1 must accompany the letter. This is one of the most valuable columns of the paper and we invite readers to make use of it. Clippings from this column, when properly preserved and classified, would make one of the most valuable medical symposiums a farmer-stockman could obtain.)

Stringhalt.—I have a 3-year-old colt that always stretches his hind legs out straight behind when I take him out of the stable. When walking down hill he lifts his hind legs much higher than natural. When trotting down hill or on the level, or traveling uphill, he does not show it much and I have never thought him lame. I am anxious to know what ails him.—E. H., New Foundland, Pa.—I am inclined to believe that your colt has stringhalt. He will be benefited by a simple operation on legs, but this work should be done by a veterinarian. In a case like this I should expect a recovery. This operation can be performed without casting the horse.

Mange.—Several of my hogs are troubled with roughness of skin on face, neck and shoulders. I notice them rubbing against fence posts, trees and etc., therefore they must itch.—M. S. V., Washington, Pa.—Mix together 1 part sulphur and 2 parts fresh lard and apply to itchy parts, 3 times a week. Also give your hogs one-half of a teaspoonful sulphur at a dose in feed, once a day.

Worms.—I have noticed some of my hogs passing worms and I would like to know what to give them.—K. S. G., Oil City, Pa.—Mix together equal parts fluid extract pink root and fluid extract of senna and give each of them a tablespoonful at a dose, twice a day, until you believe them free from worms. There are good commercial worm remedies on the market that should give you satisfactory results.

Stocking.—Dot-bellied Colts.—I have a 1200-lb. mare which I expect will drop a colt next May. Her legs stock badly when allowed to stand in stable, and exercise does not seem to take it all out. So far as I can tell, this mare is healthy. I also have two colts, seven and eight months old. Both are pot-bellied, but otherwise seem to be alright. Their appetites are very good. What proportion of charcoal and wood ashes should be fed to hogs?—A. L. S., Tioga, Pa.—As you perhaps know, stocking is a result of other ailments and not a disease. After exercising her, bandage legs in cotton, leaving bandage on two or three hours. Also give a teaspoonful powdered nitrate of potash, 1 dr. ground nux vomica, and 1 dr. fluid extract digitalis at a dose, three times a day. The bowels should be kept open and she should be exercised every day. Mix together equal parts ground gentian, ground cinchona, ginger, bicarbonate soda and salt, and give each colt a tablespoonful at a dose in feed, twice a day. One part wood ashes, 3 parts charcoal and 4 parts salt makes a nice mixture for hogs.

Infected Udder.—I have a cow that has had several attacks of udder trouble. I am anxious to have her cured. She has been given good care and I cannot account for her getting these spells. What can I do for her?—G. M. A., Washington, Pa.—When a cow's udder becomes infected in more than one quarter, and when one inflammatory attack follows another, the cow rarely gets entirely well. She will be benefited by applying iodine ointment to diseased and caked portion of udder once a day, and give her 2 dr. potassium iodide at a dose in feed, 3 times a day.

Garget.—Indigestion.—Constipation.—For the past month or so I have been bothered with my cows having caked udders. I have applied home remedies, which fail to correct this trouble. Also one of my cows is occasionally bothered with indigestion. What would you suggest keeping on hand for cows that are troubled with constipation? Kindly give your advice on above questions.—M. S. D., Hookstown, Pa.—Careful feeding, cleanliness, plenty of bedding, good care and clean milking will partly prevent some of it. Give 1 oz. cooking soda and 1 oz. ginger at a dose in feed, 3 times a day and it will help her. Keep on hand Epsom salts and give 1-lb. doses when needed.

Special Club Raisers' Premium Offers.

Any of the following valuable and useful articles will be given for a small club of subscriptions to Pennsylvania Farmer, as explained in the following offer:

We will send you by mail, prepaid, any following premium for a club of subscriptions amounting to only 30 points. Each subscription counts so many points, as follows:

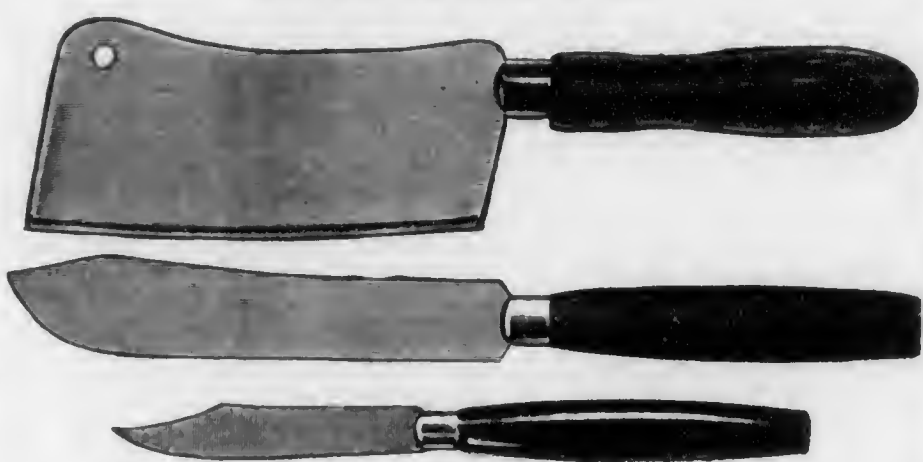
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PENNSYLVANIA FARMER, 214 So. 12th St., PHILADELPHIA, PENNA.



VOL. 34.—No. 23

PHILADELPHIA, PA., SATURDAY, DECEMBER 6, 1913.

2 YEARS FOR \$1.00.

A Farm of Specialties.—A Crawford County Example.

Application of business principles, combined with advanced methods of farming, has developed the 75-acre farm owned and managed by Mr. H. O. Holcomb, of Crawford County, Pa., into one of the most productive farms to be found in northwestern Pennsylvania. The farm is situated about a mile from a rather popular health resort, in the center of a community where farms have been more or less neglected. This makes the unusual productiveness of the farm stand out in contrast to those around it, and at the same time is evidence of what a little business management will do in reclaiming run-down farms.

Features of the farm combine poultry keeping, hog raising, dairying, gardening and truck farming. Each of these departments, in charge of competent help, under the direct supervision of Mr. Holcomb, might be taken as a model. The proprietor has many original ideas which he has worked out in practice and proved to be good.

One of the objects of the farm is to supply table produce for hotels at the health resort and also to provide a way of turning table waste to some account. The farm makes it possible to have a supply of strictly fresh eggs, pure rich milk and cream and unlimited vegetables and farm produce for the hotels. Hundreds of dollars worth of eggs, poultry and vegetables are sold, besides that used at the hotels. The demand for these exceeds the supply.

The Dairy.—The dairy consists on an average of about 20 high-grade Holstein cows, headed by Prince Joseph De Kol 66299. Prince Joseph is four years of age and his hide is as yellow as gold. He took first prize at the annual fair of the prominent Lake Erie Agricultural Society last year. Remarkable improvements have been made in the herd since he has been in service. One of his daughters, a year-old grade, is yielding 43 pounds of milk daily for 100 months; another is yielding 34 pounds daily. The bull works the field as efficiently as a horse, and will pull as heavy a load. He is used for unloading all the hay, plowing, harrowing, cultivating and drawing out manure from stalls in the barn, hog pen and poultry houses. He does all the plowing and cultivation work in the city runs, besides much in the field. This gives him exercise the year around and keeps him in the best of physical condition and makes him the means

of a double source of profit. The work he performs more than pays his board bill and gives him valuable exercise, an essential that is often overlooked with animals of this class.

The pasture is large enough only for exercise for the dairy cows and the breeding sows that run with them. Green stuff without grain makes the bulk

nishes a variety to the ration. It is considered a most valuable and economical building on the farm.

In the fall the silo is filled with corn, it holding about 100 tons. At the last cultivation of the corn vetch is sown and this also goes into the silo. It is Mr. Holcomb's idea to build a second silo and fill it with alfalfa, which he has succeeded in growing, preserving it at as near its natural state as possible. Besides the silage, winter feed consists of cut hay and straw, mixed together, and some roots. Little grain is needed. With his home-grown ration, while grain increases the milk yield slightly, it does not do it sufficiently to pay for feeding much of it.

Records are kept of each cow, and when one does not pay, it is sold. Heifer calves from the best cows are raised to perpetuate the herd. These are given careful attention, sprayed daily in summer and fed in stanchions so that each one can get the allowance intended for it according to its age and size. They are kept in a separate pasture where they have access to all the green feed they can eat, and also to a building to protect them from severe storms. The calves show the result of proper treatment.

The Poultry Plant.—Many valuable and practical lessons can be learned in Mr. Holcomb's poultry yards. He keeps from 4,000 to 6,000 birds. The varieties are White Wyandottes, Rhode Island Reds and Barred and White Plymouth Rocks. Two sizes of open-front poultry houses are used. Altho the temperature at times falls well below zero, there is never any trouble with frozen combs. Houses for the layers are 10 x 14 feet, while those for the breeding stock are 8 x 12 feet. In the former type of house about 60 pullets are kept, and in the smaller ones about 20 of the breeding stock.

The hatching is done in a fireproof cooler made of concrete blocks and lined with ash. The chicks are fed mostly on bolts from the incubators. In each cooler is a hopper filled with meat scraps and a

TYPE OF OPEN-FRONT POULTRY HOUSE USED FOR LAYING BIRDS.
On the H. O. Holcomb Farm, Crawford Co., Pa.



A VIEW OF THE POULTRY HOUSES ON THE H. O. HOLCOMB FARM, CRAWFORD CO., PA.

When the peas begin to get ripe the crop is harvested and put in the silo. The work is done with a portable six-horse-power gasoline engine kept on the farm. An abundance of water is used. The same practice is followed with millet and Hungarian grasses. The morning feed is taken from the silo, while the night feed is from the field. The silo makes an outlet for the silage crops and also fur

ed, also furnish heat for the brooder house is a most making it possible for one attending thousands of little chicks. For the chicks are fed mostly on bolts from the incubators. In each cooler is a hopper filled with meat scraps and a

(Continued on page 6.)

CONCRETE FENCE POSTS.

The farmer may make his own molds for concrete fence posts, or he can purchase them from one of the various concerns that manufacture molds on a large scale. The accompanying illustration shows concrete posts as they appear when erected. Farmers sometimes club together in purchasing factory or metal molds, thus reducing expense to the individual.

The easiest and cheapest mold to make, however is the straight mold, or one for a post which does not taper. Such molds are merely long boxes built with various schemes for making the molding of the post a simple matter. On account of the amount of lumber saved and the ease with which these molds are filled, straight molds are generally made in "sets" or "gangs," by constructing several side by side with a continuous bottom and end pieces. Posts should be reinforced with a rod or wire in each corner. In most cases round bars, three-sixteenths or one-fourth inch in diameter are used.

After the molds, which, as a rule, lie flat, have been oiled or scraped, the concrete should be placed in them at once. If, for any reason, the concrete stands 30 minutes after mixing, it should be thrown away and a new batch mixed, for cement, if it has once partially set, makes weak, dangerous concrete, even tho it is retempered by turning or adding water. After the molds are filled evenly to the depth of three-fourths of an inch or 1 inch, according to the spacing of the reinforcing rods or wires, the reinforcement should be laid in, properly spaced by means of at least three "foot-proof" wire spacers.

The concrete should then be poured in until the molds are filled within three-fourths of an inch or 1 inch of the top, when the remaining reinforcement is fitted in place in the manner described and the molds are completely filled. To render the concrete more compact, a crowbar or a pinch bar should be placed under each corner of the mold successively and moved up and down quickly. This vibration makes the concrete more compact but there will be very few of those bubbles if the concrete is sufficiently mixed to proper consistency. If desired, the exposed corners of the post may be beveled with an "edger" and the open face given a neat finish by using a trowel immediately after the surface has been absorbed and before the concrete has become too hard.

If wooden molds are used, they should be well soaked in water, so that the green concrete will not cause them to swell and thus crack the posts. The following are exceedingly important precautions:

Do not expose the newly-made posts to wind, hot sunshine or frost. Do not remove the mold from the green post until thoroughly dried, which generally requires three or four days. Even then the post should remain on the bottom board until it is thoroughly dried and not be disturbed for at least a week. During the first two weeks the post wet and covered with a tarp or other clean covering to keep it thereafter each

mixing the concrete with "bank run" gravel should be used in the proportion of 1 part of cement to 4 parts of sand and 4 parts of gravel. All measurements should be made with the material

poured loosely into the measuring box, and the box, when full, should be leveled smooth.—P. C. Stock.

THE BOY'S CHANCE.

What Three Boys Did.

The article, "The Boy's Chance," in a late number of Pennsylvania Farmer, prompts me to tell how three farmer boys (brothers) I know of are earning their own spending money. They have not made a fortune, but they are building a solid foundation for the future. They are getting experience and a business training, and they are also learning to use their brains. What is especially important they are learning to think, plan, and, in some way, contrive to make a small piece of ground bring in as much money as many farmers manage to get from an acre.

The oldest, a boy of sixteen, sold \$2 worth of radishes and \$1.60 worth of spinach from a garden 18 feet long and 9 feet wide. He bought an additional plot of radishes for \$2 and sold \$6.40 worth from it. He planted spinach after a crop of onions had been removed, and got \$6 for that. The ground he used would not have produced another crop this season had he not utilized it to grow the spinach.

The fourteen-year-old boy planted radishes and lettuce, but as he is not satisfied unless crops grow quickly and



A STRONG, DURABLE WIRE FENCE SNUGLY STRUNG ON CONCRETE POSTS.

bring early returns, he sold the radish patch for \$2 and the lettuce for \$1. The sixteen-year-old brother bought the radishes, as I have said, and another member of the family bought the lettuce. The lettuce brought \$9.50 and the radishes \$6.40, a total of \$15.90, so the seller lost \$12.90 by not waiting.

It was a lesson to him, however, and was useful and badly needed, as he is all-too-ready to turn a crop under and plant another if the first doesn't grow fast enough to suit him. He wanted a bicycle and he sacrificed \$12.90 to get \$3 in ready money. He had a small garden 14 feet long by 13 1/2 feet wide, and this he planted to lettuce, which brought him \$1.85, and was followed by endive, which brought \$3.70. He planted lima beans where he had the radishes in the spring and, altho it is impossible to tell exactly, as he did not keep account of the limas, they brought in about \$5 additional.

The twelve-year-old is a hustler. His little garden of 7 by 14 feet brought \$1.20 for lettuce and \$5.80 for the endive which followed. That is a total of \$7 for an insignificant patch of ground. In August he planted a row of endive, after his father had harvested a crop of onions from the ground, and this row has brought him \$5.40, and it is not all sold yet. The heads of endive were nice and large, to catch the eye, and sold well when blanched. He blanched by boarding, as with cel-

ery, and this method certainly turned out a fine product. He had radishes planted, but they did not do very well and brought only \$1, while a small patch of cabbage brought \$1.50. He also earned \$3 in commissions getting subscribers for a farm paper and will probably earn more in this way again this winter. He and the fourteen-year-old boy put \$4 apiece into a pair of pigs, the pair costing them \$8. These pigs have, for the most part, been fed on the waste material which is so plentiful on a truck farm. The boys made a mistake in buying these pigs in the fall, as they will have to carry them thru the winter. Had they bought the pigs in the spring, they would have raised them cheaply on the waste material. They would have been able to sell the pigs in the fall at a nice profit. As it is, they made the mistake, but will not be liable to make the same mistake again.

All three boys have used that time-honored method of the farm boys to get spending money—that is, trapping. As muskrats are the only fur-bearing animals in this region whose skins are of any value, they have trapped muskrats. That brings several dollars every winter. They are handicapped in this direction by being in a thickly populated section, where animals are scarce. But as the population furnishes them with a good market for all they can

utilize, seed, and the structure and position of the farm buildings themselves must show that the owner has made this distinction if the farm is prosperous.

False economy constantly reminds one of niggardliness while he struggles at a disadvantage with cheap tools, inefficient help or without conveniences, losing money and the ability to advance. False economies always have their day of reckoning with somewhat to pay. True economy sets going all the wheels of thrift and is a blessing to the end of life. Evidences of both kinds of economy can be seen in any country community, and it is interesting to classify such for our own benefit, if for no other. Following are a few typical examples of each kind:

False Economies.

Saving money on conveniences at the expense of health and strength. Buying fertilizers thru agents solely on credit terms instead of paying cash for the ingredients. Cheap seed. Postponing repairs. Saving present outlay by neglecting better shelter for farm animals and paying later in veterinarians' bills and feed as well as reduced products. Borrowing money at 6 percent interest for present luxuries to save oneself the unrest of appearing less well-to-do than one's neighbors. Buying on credit when one may pay cash. Saving the expense of re-seeding or covering land after cropping. Buying other than good leather in harness and shoes. Neglecting to buy enough bolts, nuts and little things to facilitate quick adjustment and repairs to farm tools. Hiring two or more cheap, careless men to do the work of one good one.

True Economies.

Paying a good man to do work carefully. Good paint and good workmanship when the first cost is greater. Paying for good, strong wood in wagons and light, strong logical construction of farm tools, and durable efficient machinery. Borrowing money at legal rate of interest to meet present demands, which insure the future. Paying for better modes of sanitation. Paying for good animals, whose labor or produce will be in excess of their cost of maintenance. Taking enough time to consider thoroughly every undertaking that is new. Recreation without dissipation. Being up-to-date. The best facilities ever invented in any age or time are up-to-date.—M. Roberts Conover, Mouth Co., N. J.

IMPROVING STRAINS OF CORN.

In the second article of this series of "Plant Breeding by the Farmer," appearing in the issue of November 15, the necessity for selecting for high yield from a large number of mother ears was considered; a method of determining the high-yielding strain was outlined—known as the ear remnant method; and, finally, selection was made after careful determination of the relative yields under the same conditions of soil, fertility and cultivation. With the ear remnants thus far known to yield best as a basis, we shall now consider the improvement of the strain.

Securing the Highest Average.—At the beginning of the second year the ear remnants, remaining after the first selection, are planted in rows under the same conditions as the previous year, and the experiment carried on in exactly the same way. This time, however, care must be taken to allow little or no cross fertilization from the adjoining rows which represent strains of different yields. This may be done by so increasing the number of rows that two or three rows on either side of the rows from which the yield will be determined may be used for a check and dis-

FALSE AND TRUE FARM ECONOMIES.

The thorough farmer knows the meaning of economy even when he does not wisely apply it, but he has arrived at that knowledge by degrees. The best system of farm management distinguishes between false and true economy. The purchase of cheap machinery, for

carded. For practical purposes this will prevent nearly all hybridization.

It may not be wise to follow corn on corn unless from the experience of the farmer such a proceeding would be considered allowable on his soil. The experiment is carried on as before when the ear rows are harvested, weighed and recorded in the fall. They can then be compared with the yields of the same rows for the previous year and the average for the two years obtained, and from this average the highest-yielding strain is taken as the final selection. The reason for this may not be obvious. Assuming, however, that the controllable factors in production—such as soil, fertility and cultivation—have remained the same, as the case would likely be, we may have a wide variation in climatic conditions for these two years.

The first year there may have been a difference in rainfall or not a proper distribution of it thruout the growing season to give the highest yield, and the yields of the various strains would be affected by these conditions of growth. The second year there may have been sufficient rainfall and properly distributed for maximum distribution and the yield from the same strains would vary from the yield of the first year. Thus, by taking the average of these two yields, we have selected the highest-yielding strain under average local conditions. The corn from the highest yielding row is used for the general field next year and also for the breeding plot, in which the work for improving and purifying the strain is carried on.

Improving the Strain.—The third year's work finds us with one, or at best, only a few strains of all the corn we started with the first year. For the beginner probably the one strain will be sufficient for further experiment. The size and shape of the plot may be changed now by shortening the rows and increasing the number if it is so desired. The breeding plot should be prepared and the corn planted as formerly. When the corn is just coming into tassel and before the silks begin to appear, the tassels from alternate rows should be cut off so that inbreeding cannot take place. When the corn is ripe in the fall the seed corn should be selected from the detasseled rows and the corn from the tasseled rows discarded. The very best ears selected can be used in the breeding plot for the next year and the balance can be used for the general field. This process may be continued from year to year.

In this way we purify and improve the strain by continued selection and by close breeding and eliminate the bad results due to inbreeding. There is a limit to the yield which can thus be obtained from the one strain, but by careful selection and by the elimination of all possibilities of inbreeding this yield can be maintained for a number of years. Inasmuch as close breeding by crossing different strains, by the method of detasselling alternate rows, has given good results in increased yield, it is not impossible for the farmer to breed selected seed from two different high-yielding strains by using four plots—one each to maintain the purity and high yield of the original strains, and the others for purposes of crossing, using ears from each strain to plant every other row.

Corn selection and breeding for improved strain is within the reach of the average farmer. It is doubtful if his time can be spent to such good advantage as that which he spends on increased yield, or for whatever other quality he desires in his corn crop. When he once makes the start, methods which at first seem bewildering, will become simple. A new interest in crop

production will become manifest as he comes to see the possibilities of practical plant breeding. Above all, it will give a real value and zest to farming, which, until actually experienced, can never be known. Added to these things, increased yield, better quality and larger profits will by no means be of least importance.—John H. Reiser, Cornell University, N. Y.

Maryland Week Show

Wonderful Exhibit and Interesting Meetings.

"Maryland Week," celebrated annually at Baltimore, Md., has come to be one of the great agricultural events of the year. It is the season's round-up of Maryland's fairs and the state superior court of all that pertains to agricultural production. Combining the annual meetings of the Maryland Horticultural Society, Crop Improvement Association, State Beekeepers' Association, and the Farmers' League of the state, it brings out the leading representatives of every branch of farming of the state in an agricultural show that is hard to beat in any section of the country.

"Maryland Week," held November 18 to 22 of this year, was by far the best in the history of the movement. Strong programs had been arranged for each of the allied meetings, and the attendance at each was good thruout. The show of farm products deserved to rank with the very best in the country, not excepting the big land shows or territorial exhibits. The 60,000 square feet of floor space in the Fifth Regiment Armory in which the show was held were crowded with a diversity of farm products that would be difficult to duplicate in any other state. The wide diversity of products, all of excellent quality, showed the wonderful resources of the vegetable sections of southern Maryland, the highlands of the western part of the state, and the fertile fields of the Eastern Shore as nothing else could.

Farm Products.—Some conception of the size of the show can be gathered from the following: There were about 1,200 plates of apples, 250 boxes and 50 barrels, representing about 30 varieties, which had been gathered from every part of the state. There were three barrels and 53 plates of pears; 235 plates of nuts, including peanuts, walnuts, chestnuts, hickorynuts, butternuts, etc.; 55 exhibits of corn; 200 exhibits of wheat, and similar quantities of potatoes, small grain, vegetables and household products. In the center of the floor was an area of 9,000 square feet surrounded by a hedge of smilax, in which was grouped a floral display that equaled the agricultural exhibits in number and variety and gave a beautiful setting for the combined exhibits. Leading awards were won as follows:

Awards.—Apples—Best 25 boxes, 5 varieties, Sanger Bros. Cordova. Best 10 boxes, Sanger Bros. Best 10 barrels, 3 varieties, Hanson Bros. Elliot City. Best box, any variety, Hanson Bros. Best barrel, Hanson Bros. Largest and best display, Hanson Bros. Best collection of 10 varieties, W. B. Harris, Wootton. Corn—Best 10 ears white grown in state, G. D. Rodebaugh, Harford Co. Best 10 ears yellow grown in state, A. B. Twining, Harford Co. Best 10 ears grown in state, G. D. Rodebaugh. Wheat—Best peck wheat grown in state, Howard Mann, Howard Co. Vegetables—Best display, 12 commercial kinds, Howard Hirst, Dorchester Co. Best display, 12 kinds for table use, George Morrison, Upland.

Club Exhibits.—A particularly pleasing feature was the exhibits made by granges and farmers' clubs. There were eight of these in competition, all representing a vast amount of careful work and selection, and skillful production.

The method of displaying products was a factor in making awards, and some particularly unique and attractive exhibits were the result. The Rich Neck Farmers' Club, for example, showed its products in a design representing a huge fruit basket, with compartments for fruit, vegetables, grains and household products. The Patapsco Farmers' Club, of Howard county, showed its products in the form of a farm house, the roof being made up of corn, the sides of cases of grains, vegetables, fruits, etc., and the whole housing attractive household products. The first prize of \$100 was awarded the Rich Neck Farmers' Club, of Queen Anne's county; second prize, \$50, Olney Grange, Montgomery county.

Meetings.—The meetings were all well attended and interest was keen. The dairymen were out in large numbers and led in largest attendance. The features of their meetings were addresses on How to Make a Dairy Pay, by Prof. J. L. Graybill, of the U. S. Department of Agriculture. The horticultural association was addressed by Prof. L. C. Corbett, of the Bureau of Plant Industry, on Pay Crops for a Young Orchard, and W. W. Farnsworth, of Ohio, on peach, cherry and strawberry growing. Dr. S. W. Fletcher, of Virginia; U. Grant Border, of the International Shippers' Association, and Prof. J. C. Johnson, of Virginia, discussed timely horticultural subjects. The features of the crop improvement meetings were addresses by Prof. F. D. Gardner, of State College, Pa., on The Greatest Fertilizer Experiment in America, and Soil Problems, by Dr. Cyril Hopkins. Professors and instructors from the Maryland Agricultural College assisted thruout all of the meetings.

Demonstrations.—One of the most valuable educational features was the demonstrations in progress daily under the supervision of the Maryland Agricultural College. These included demonstrations in planting and pruning trees, testing milk for butter fat, judging corn, selection of corn and wheat seed, farm drainage, analyzing field seeds, packing apples, selection of seed for hay, care of wood lots, tile drainage, etc.

Essay Prizes.—Prizes were awarded for best essay on the subject of the Relation of Agriculture to the Material Development of Maryland, written by any boy or young man attending a public school of the state. The first prize of \$20 was won by Stewart O. Day, of Harford county.

Too much credit cannot be given to the officers of the allied associations in the development of this show. The best evidence of their success is found in the confidence and enthusiasm with which the farmers of the state are supporting them. "Maryland Week" is no one-man or one-institution show. It is truly representative of the agricultural interests of the state and the best there is in the state.

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Horticulture

SELECTION OF SITE AND PREPARATION OF GROUND FOR THE ORCHARD.

The importance of selecting the proper site for the orchard is often underestimated, especially by the novice. It must be borne in mind that the orchard is a permanent item, which, if properly cared for, may last a generation and more. A crop of corn or wheat lasts but one season, while orchards may last 100 years or more. Peaches, of course, are shorter-lived, but there are many peach orchards in favorable locations that have been profitable for 20 years or more.

The location of the orchard should be selected with a view to its accessibility to the nearest shipping points, as the cost of hauling the fruit is a considerable item of expense.

We have in mind a bearing orchard which is 18 miles from the nearest station, and in this instance, the cost of hauling runs up a large percentage of the profits. A distance of from 2 to 5 miles is common, but the ideal is to locate even nearer to the station, as along a railroad, where a switch can be placed near the orchard. It should also be easy of access from a main-travel

the trees being away from the more direct rays of the winter sun, and constantly exposed to the north and west winds, would remain dormant longer in the spring. This theory has been proven true, but orchardists now believe that more damage is done, on the average, by the intense cold than by the spring frosts, and that good air drainage is of more importance than exposure. Cold air, like cold water, will flow and seek the lowest level, and a location from which this air will sink to a lower level is necessary. Deep hollows should be avoided, unless there is lower land to which the air can flow. The orchard should not be so much exposed that the prevailing winds continually sweep across it. A woodland often furnishes good protection.

Apples, we know, are more hardy than peaches, and they can be set at lower altitudes, but it is well to keep air drainage and exposure conditions in mind regardless of altitude. The orchard should also be dry and naturally well drained, as trees will not do well in a damp soil.

Shape.—It is important that the field should be regular in shape, in order that there be no short rows. A square field is perhaps the best, but one which has parallel sides and ends is not so undesirable, provided the field is not too long and narrow.

Preparation of Ground.—After the

and with this operation we are ready to lay out the field.

Of course it is possible to plant an orchard without any previous preparation. Indeed, it may even be planted in sod, but if thoro preparation of the soil will advance the bearing period by at least a year, as it undoubtedly will, it is certainly worth while.—H. G. Fassett, Hamburg, Pa.

FRUIT WEEK AT THE NATIONAL CAPITAL.

Last week was fruit week at the National Capital, the occasion being the regular meetings of four international horticultural societies. It was the first time in the history of the country that these four organizations have met together at the same time and place to discuss the broad and varied questions pertaining to the horticultural interests of the North American continent. As a result there were gathered together from British Columbia to the West Indies, and from Nova Scotia to New Mexico, probably the greatest assembly of practical growers and scientific experts that the continent has ever known.

The American Pomological Society.—This is the oldest of the four societies, and has just taken on a new lease of life, due largely to the efforts of the secretary, Prof. E. R. Lake, of the U. S. Department of Agriculture. Its program covered four solid days and was devoted to discussions of almost every conceivable aspect of the fruit, vegetable and floral industries, especial emphasis being laid on the commercial or business side.

The Society for Horticultural Science.—This organization, which is really a branch of the former, is devoted chiefly to teaching and investigational problems in horticulture, its members being largely teachers and experiment station workers. Departing from its usual custom, this society held only four special sessions, uniting with its parent organization for the evening meetings. Of the four sessions, two were given over to the discussion of problems relating to horticultural teaching and two to investigational work in horticulture.

The Nut Growers' Association.—This society, the young, demonstrated that there is a growing interest in nut fruits, its three special sessions being well attended. While for the most part the discussions were concerned with the nut fruits adapted to northern climates, the pecan and other southern nuts received their share of attention. It is apparent that the nut industry of the country has been much neglected, but that its possibilities are beginning to be realized. In this connection it is interesting to note that the Persian or English walnut is being grown as far north as northern New York, and that the pecan is successful in many parts of Indiana.

The Eastern Fruit Growers' Association.—This is the strictly business or commercial organization of the practical fruit growers of the East, organized two years ago for the purpose of securing legislation to compel a uniform or standard grade of packing and packages and to give publicity to Eastern fruits. Perhaps the most interesting part of the discussion at this meeting was that concerning the so-called "Sulzer" law, which provides for a certain standardization of apples in barrels, and which this association was instrumental in having introduced. There was apparently some demand on the part of some growers for a short or small barrel for certain conditions. At this meeting were to be seen some of the largest growers of horticultural products in the country. Conspicuous among them was one New Jersey grower who, last year,

Everybody Buying STEEL Shingles!

All over the country men are tearing off wood, prepared paper, tin and galvanized roofs. Nailing on "Tightco" S.T.E.E.L. For only "Tightco" STEEL can be rot-proof, fire-proof and rust-proof. It had to come, for this is the Age of Steel.

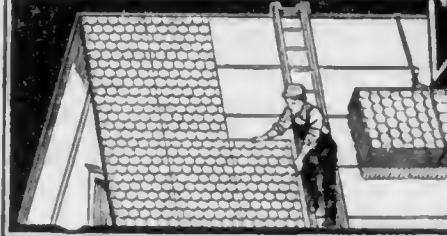
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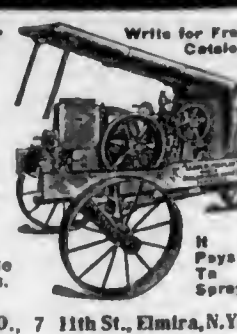
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solid, clear of commissions, produce to the extent of \$95,000.

The Fruit Exhibit.—Of interest to fruit growers and the general public alike was the magnificent fruit exhibit of several hundred boxes and plates (the cream of the land) from 15 different states and provinces from Florida, in the southeast, to Washington, in the northwest, and from Ontario, Canada, to Missouri and Alabama. This was not a commercial fruit show, but an educational one, where varieties and their adaptations to soils and climates could be studied at will. Among the more important of these exhibits were the seedling varieties from the Geneva, N. Y., Experimental Station, which were the results of crosses in an attempt to combine the quality of fruit of the bitter sorts with the productiveness and attractiveness of some of those of poorer quality. Out of thousands of seedlings so produced only a dozen or so have been retained and named as being of possible commercial value. A similar exhibit from the Ontario Experiment Station, showing seedlings from the Fameuse, or snow type of apples, was full of suggestions as to what might be accomplished there. Other stations represented were Utah, Montana, Virginia, New Jersey, North Carolina, Kentucky, West Virginia, Connecticut, Washington, Missouri, Pennsylvania and Wisconsin. The tropical display from Florida was especially fine.

Fruit Judging Contests.—One of the new features of this year's meetings which will undoubtedly be continued, was the student fruit-judging contest. Teams of three from eight different agricultural colleges were entered in this contest in competition for a silver trophy. This trophy was won by the team from Missouri, with a total of 92 points, followed by the other teams in the order named: New York (Cornell), 91.9 points; Iowa, 89.7 points; West Virginia, 86.2 points; Kentucky, 85.8 points; Pennsylvania, 85.3 points; Massachusetts, 84.3 points; New Jersey, 78.2 points. The largest individual score was made by Mr. L. F. Bies, of Missouri, with a total of 95.2 points. F. H. Beach, of Iowa, was second with 93.7 points, and D. E. Alleman, of Cornell, was third with 92.2 points. The judges were Prof. C. P. Class, of Washington; Prof. T. R. Taft, of Michigan; and Prof. W. T. Macoun, Dominion Horticulturist of Canada.—W. J. Wright.

At the present time we send a million dollars annually to the Netherlands for our bulbs for spring flowering, but it is the hope of the officials of the Department of Agriculture to save this thru domestic production. The Dutch growers are already deeply concerned over the matter and have sent representatives to visit the garden established by the U. S. government at Bellingham Bay, Washington, inspect the work and observe the results so far secured.

An interesting feature of the work of the government bulb garden is the development of a scooping machine used in the propagation of hyacinths. The mother hyacinth bulb is scooped out so as to expose the lower part of the scales just a little above where they unite with the base of the bulb. After scooping, these bulbs are put in trays and placed in the sun to dry. The trays are then placed in a well-ventilated, well-lighted and well-heated propagating house. The scales soon separate somewhat, callus, and reproduce young bulblets—20 to 30 from each "mother bulblet." About 4 years is required to grow these bulblets into salable flowering bulbs.

The Department of Agriculture has just issued as Bulletin 28 a report on the experiments in bulb growing at Bellingham—a report which is most interesting and well illustrated.

Fighting Pear Thrips.—Excellent results are said to have been obtained in fighting pear thrips by the application of a spray of whitewash, consisting of from 75 to 100 pounds lime (first-class and well-slaked) to each 1000 gallons of water. It is stated that the cost of the spray should not exceed more than one cent a gallon of prepared material. The spray should be applied just as the buds begin to separate and the entire surface of the tree should be covered, one application being sufficient. In a Missouri experiment eight times as many pears were obtained from trees sprayed in this way as from unsprayed trees.

Sashes, when not in use, should be stored under cover. The action of the weather is hard on wood and those that are close to the ground, outdoors, will soon rot. Store under cover, therefore, and between each sash put 4 pieces of wood about one inch thick, one at each corner, to allow for a free circulation of air. This is done in all lumber yards.

Winter is a good time to get the sash fixed up and in shape ready for spring use. The work can be done indoors and, as finished, the sash can be stored on "carpenter's horses." Give the frame work two coats of paint, put on glass and then putty and paint over putty. Particular attention should be given the joints.—C. W. Van Horn, Jr., Delaware Co., Pa.

EXPERIMENTS IN BULB GROWING.

As an outcome of extensive tests of Holland bulb growing by the Department of Agriculture in 1906 in the Puget Sound region and other sections of this country, with a view to finding soil and climatic conditions similar to those of the bulb-growing sections of the Netherlands, it has just been established beyond question that this country can not only raise its own bulbs, but larger and more handsome ones, earlier flowering and freer from disease. The climatic and other conditions have been found to be quite ideal there for bulb production.

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The "Chatham" handles all grain and grass seeds; takes out weed seeds; separates mixed grain; leaves pure seed. Over 800,000 Chathams in use, and every owner satisfied. Write a postal now for my FREE copy of the new book, "The Chatham System of Breeding Big Crops," description, price, terms, etc. Address nearest office.
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BEST LIME
ON EARTH
Write us for Limes Paper to test your soil for lime requirements. It is FREE. Our Lime Cards, bonas, guaranteed in every respect. Let us prove it to you.
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Quaker City Mills
Grind Feed the Fastest and Finest
Any of our 23 styles—hand power to 20 h. p.—shipped on 10 days' free trial. We pay the freight. Prove to your own satisfaction that Quaker City Mills will satisfactorily grind anything—grain, grain, separate or mixed, ear or shelled corn, husks, and from the coarsest to the finest meal of any grade. And our prices are the very lowest.
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3725-3741 Fibert St., 3728-3718 S. 3rd St., Philadelphia, Pa. Chicago, Ill.

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These saws will cross-cut heavy pole and cord wood and rip posts and light lumber. Our patent and clip saws prevent saw breakers, and assure easy running. Sharply and right. Write today for catalog, low prices and trial offer.
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Box 15, New Holland, Pa.

Clover Seed—1913 Crop. Prices Low. We ship direct. FREIGHT PREPAID.
OLICK'S SEED FARM, R. D. 6, Lancaster, Pa.

The Dairy

A FARM OF SPECIALTIES.

(Continued from first page.)

of cracked corn, wheat, millet and sunflower seed, which is mixed on the farm. Charcoal also is provided. A water fountain is in each division. The brooder house is arranged so that one person can walk down an alley and attend to chicks confined in all the compartments.

Where every acre of the farm is utilized for some purpose, it is not possible to devote a large acreage to poultry yards. Every individual house, however, is provided with two runs, one 8 x 100 feet, and the other 12 x 100 feet. While the birds are being kept in one yard, green feed is being grown in the other. Rye is sown in the fall for the first green feed. Oats follow this and generally is ready by the time the rye is gone. Each planting lasts about three weeks. It has been a practical and profitable way of solving the green feed problem and of keeping the runs clean throughout the year.

Equal care is taken of the poultry houses. Each spring and fall formalde-

the total number at times is between 100 and 200.

The main hog house for farrowing sows and young pigs is 20 x 100 feet. It is divided into pens 8 x 15 feet, with a five-foot alley in front for feeding and driving thru with stone boat to clean out the manure. A feed room is in one end, 20 x 20 feet. This is provided with feed and cooker, butchering apparatus and other material. A skylight in the top of the building and a window every few feet admit light to every corner of the room. The floors are of concrete, and there is running water in every compartment.

Each pen is provided with an elevated two-inch platform, where the hogs sleep. This is protected from moisture by a sanitary lining of building paper between the layers of concrete. Strict cleanliness, lots of fresh air, wholesome food and plenty of exercise are the essentials advocated by Mr. Holcomb. Altho hundreds of hogs died of cholera in all sections of the county a few years ago, the disease is unknown on this farm. Windows in the hog houses are of gauze, it being thought that this type of window gives much better ventilation and maintains 10 degrees higher temperature in winter than glass; this having been demonstrated by actual experiments.

Shots are kept in small houses at the

Gardening.—The garden department consists of about eight acres used for all kinds of truck. A small canning factory for taking care of surplus tomatoes, sweet corn, peas, beans and fruits, was built this season. One part of the canning factory is devoted to making sauer kraut, this having proved a profitable market for part of the cabbage crop last year. A system of irrigation makes the farm practically independent of rain.

Previous to the ownership by Mr. Holcomb, the farm had been cropped for 30 years. The clay fields were full of lumps and non-productive. With the application of business management, it has been made into a paying investment.—L. J. H.

HOW DAIRY QUALITY IS FIXED.

Some one has remarked that "if ten of the best cows of some leading breed were selected and a sire as strong in dairy blood was used on them, the heifers of this cross would show surprising differences in milking capacity." Very true, as you have at best, half of the mother's influence in each case, with its tendency to revert back to ancestry. The usual plan for the owner was to sell out the undesirable ones and bring in fresh blood to undergo another checking out of the reverts. The dairy history of this country cannot show anything like a strong advance in dairy quality, or any thing like a general average. That is, it is almost impossible to produce a bunch of cows all milking about alike where this plan of introducing fresh blood to strengthen up with is in common practice. The fact is that every fresh importation of blood brings in this very avenue of reverting back to ancestry, and causes this varying percentage of high production.

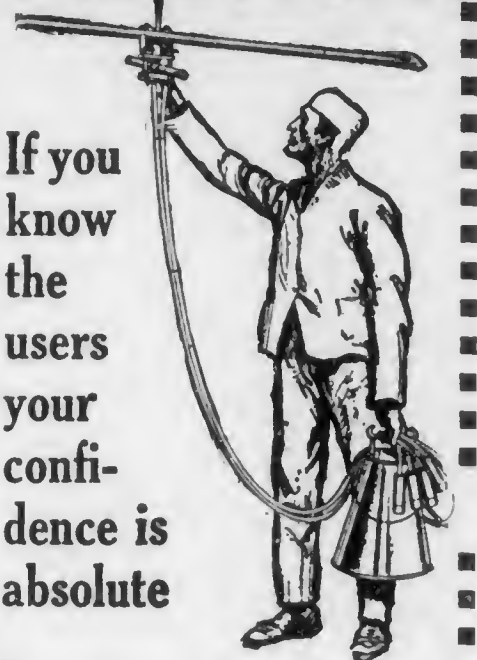
We have partially recognized this avoidance of irregular performance by insisting that the sire of a herd shall be of strong concentrated breeding; that his ancestry shall be of strong dairy performance, so that he may contribute and impart his dairy propensity to his offspring. But, on the other hand, we discard this concentrating by looking after new blood, and its entangling alliances, and wonder why there are so many blanks. Why not concentrate on the dam's side -s well? Why not allow this sire to concentrate full dairy power and performance? Why not get out of the domain of uncertainties as nearly as possible by breeding this sire's daughters back to him and get three-fourths dairy influence of any kind and then back again and make it 87½ percent, which eliminates about all of the irregular averages? This would secure a uniformity of type, vigor and performance that is so hoped for and seldom attained in outcross breeding.

There seems to be an unproven prejudice against close breeding, or near-line breeding, but it is wholly without proof. True, the vices and diseases can be multiplied by close breeding, but, where health, vigor and thrift are mated, even to sire and daughter, the results cannot be questioned; and more, if the sire has all of these, it has a stability in its favor that makes for a gradual uplift. Out in Ohio is a herd now of quite 100 cows and heifers and many more sold, that originated from one cow and one sire. That sire is still in service. There was no fresh blood introduced, and that herd now challenges the world in its breed in form, symmetry, health, production, milk-fat percentage, uniformity of milk production, quality and close family resemblance. Dozens of these cows now, of the different generations, are giving close around 26,000 pounds of milk each in a year, with butter fat averages for

Pennsylvania Farmer

December 6, 1913.

SHARPLES MILKER



If you know the users your confidence is absolute

America's shrewdest dairy-men use over 6000 Sharples Milkers.

A good example is Hershey, the great chocolate man. He put a Sharples Milker in one of his many dairy barns and tried it out. Then in another barn and another and another, and he now milks twenty-one herds with the Sharples Milker.

Another user is Stephen Francisco, father of certified milk, and the latest wire on sanitary methods in the United States.

A small locality in Southern New York uses over 70 Sharples Milkers—the Province of Ontario milks 2500 cows with the Sharples and many thousands of machines are used throughout the continent.

An average operator milks thirty cows per hour, some milk forty, but we say thirty to be conservative. It saves money, relieves the help of problem milking, and insures more and cleaner milk by making healthier, better cows.

The Milker book is good. Send for it.

The Sharples Separator Co.

West Chester, Pa.

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Everyone is filled from cover to cover with facts of value to every dairyman and farmer. They tell how other men have succeeded, and point out the road to bigger profits. Incidentally they describe the Louden Standardized Stalls, Stanchions, Litter and Feed Carriers, Barn Door Hangers, Hay Tolls. IF YOU CONSIDER BUILDING A NEW BARN, remodeling your present one, or adding new equipment, you will want Louden products—they are proving efficient to thousands.

PLANS FOR BARN FURNISHED FREE. LOUDEN MACHINERY CO. Makers of 300 Litter Suckers for the Barn 298 Broadway, FAIRFIELD, IOWA

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December 6, 1913.

Pennsylvania Farmer

7-415

the year from 3.40 to 4.64, and no two lawyers could make plain the relationship which one cow bears to another.

It is quite as true that the male calves of such breeding will be strong in the quality that is influenced by motherhood. Here comes in the part of increasing quality in each generation. It tells why milk yields increase and why the percentages of fat have become so marked with each succeeding generation that in a breed that was once classed as skim milkers, and some still are that, the champion butter cows of the world are blacks and whites, and five of these cows have better records for the year, of 1,204—1,247—1,247—1,271 and 1,322 pounds, respectively.

These are some of the facts that are worth considering. It seems as if we in general were covering too much territory in our breeding of dairy cows. Closer concentration of blood lines and dairy heredity are needed. So all we ever learn that the English breeders' secret of success is breeding from one's own best stock and learn that close blood lines best tell when one has the right stock to breed from! This is the real secret in securing the best and enduring breed prepotency.—Charles Mphw Morgan.

Prize Articles

Home-Grown Dairy Feeds.

The best dairy herd will show little profit unless economically fed. Large milk and cream checks leave little permanent satisfaction or profit if they must go to pay bills for purchased mill feeds. Many dairymen are overlooking opportunities for increasing profits by giving too little attention to home-grown feeds. To stimulate discussion and draw out valuable suggestions on methods of reducing feed bills we will give prizes for best and most helpful articles on "Home-Grown Dairy Feeds." For best article we will pay \$15; second, \$10, and third, \$5. We reserve the right to retain all articles for publication at regular space rates. Articles should not exceed 1,200 words each. Prizes will be awarded more on the basis of value of ideas and definite statements of personal experience than on literary style, etc. All articles should be in our hands by December 15.

IMPROVEMENT IN DAIRY BUTTER.

The Dairy Butter Contest conducted by the Dairy Department of the Pennsylvania State College has been completed. There were 68 contestants who submitted samples for the contest. Of this number 26 contestants sent in samples for each of the four months. By the rules of the contest, the contestant having the highest average quality for the four scorings will receive a silver loving cup properly engraved. This cup was awarded to Miss Mary Farabaugh, of Ebensburg, Pa. She received an average score of 92.11.

Diplomas of Merit were issued to all who made an average of 90, or over, in the four contests. These diplomas were awarded to 18 contestants. Their names appear below with their average scores for the contests. This contest was well supported and much interest manifested. The general average of the butter was very noticeably improved. The biggest improvements were those made in the flavor, style of package and in more uniform salting.

In the October contest, the last one of the four, the judge, Mr. C. W. Fryhofer, federal butter inspector, said that the samples sent in showed marked improvement, especially in the flavor and workmanship. In the last contest there were less old cream flavors noticed in the earlier contests.

Following is the list of Pennsylvania butter makers that won Diplomas of Merit for making an average score of 90 or over in the four state contests: Mrs. C. S. Ritchie, Washington...90.4; Maurice E. Yoder, Mattawana...91.83; Mrs. D. A. Morrow, Tyrone...91.0; Mrs. E. H. Newton, LaFayette...90.0; Mrs. Amos C. Read, Clearfield...90.33; Arbogast Farms, Easton...90.5; Mrs. L. E. Bartlett, Pekin...91.0; Mrs. H. E. Cipe, Washington...91.14; Mrs. Geo. S. Barnhart, Greensburg, 90.35; M. A. Taylor, Grover...91.31; W. I. Barrowcliff, Laceyville...90.4; T. J. Young, Westover...90.33; Robt. L. Park & Son, Canonsburg, 90.14; Miss Mary Farabaugh, Ebensburg, 92.11; Frank D. Bridges, Burgettstown...90.4; Austin Leonard & Son, Troy...91.5; R. B. Kirchner, Latrobe...90.4; Albert Smith, Doylestown...92.0.

VALUE OF DAIRY RECORDS.

It is an axiom in business that a record is valuable so long as it is accurate. Records of breeding and milk production enable a man to conduct his business on a safe and economical basis. By keeping a service record with accurate dates and a few notes added to explain any unusual conditions surrounding the animal at the time, knowledge is made more definite. If one has not enough interest to keep records with scrupulous accuracy it may be set down as an unfailing indication that both instinct and capacity as a breeder are lacking.

Records of milk produced and butter fat contained in it are valuable whether certified or not. If you have a herd of grades you will not be interested in the advanced register, but the figures, day by day, and month by month, in their uncompromising columns, tell the story of profit or loss. They tell the difference between the good and the bad and enable you to weed out the boarders which do not pay.

Without these records you are going ahead in the dark and perhaps emulating the crawfish in its methods of progression. If you have the figures faithfully set down you can soon find just what you want to know, not only as to the cows which are paying back the cost of their keep, but also which of the cows is doing the best dairy work. Excellence is always relative; its relative degrees can only be judged with accuracy by the proper keeping of milk and butter fat records.—W. M. K., Erie Co., N. Y.

Union Grains

UBIKO Biles Ready Dairy Ration

24 Percent Protein, 7 Percent Fat, 9 Percent Fiber. The economical feed for milk production. Contains no filler, nothing but high-grade standard feeds. All the Colomander Meal, Lined Steel, Distillers' Dried Grains, and first-class mill feeds your cows require. It makes successful dairymen certain and easy. Write for our booklet "Economic Feeding," sent free. The UbiKo Milling Co. Cincinnati, Ohio

GLAZED SILO From Kiln To Farm

RED CEDAR doors with galv'd frame, galv'd pressed hoops, continuous opening, safe ladder. Money saved in early-in-the-year purchase, and right through loading installation. Catalog and facts from Daniel and Tile Dept. L. KALAMAZOO TANK & SILO CO., Kalamazoo, Mich.

FEEDING MOLASSES 12½¢

Every gallon saves a bushel of grain. Guaranteed Pure Cane Molasses. Cut price \$7.00 per barrel (56 gallons) F. O. B. Pennsylvania Factory. Money back if not satisfied after feeding half a barrel. Order quick. WATILES & CO., Box 22, Litchfield, Mich.

The Silent Milker

The 1914 HINMAN is absolutely noiseless and even simpler—more efficient—and easier to operate and clean. Each Hinman Milker works separately. Each is complete within itself. Requires very little power to operate. Allows a record to be kept of each cow.

The HINMAN

A Milker That Meets Every Demand

More than 50,000 cows are milked daily with the HINMAN. These dairies are scattered all over the United States. All kinds of cows—all conditions—all classes of dairymen—all a success. The machine for 10 cow dairy.

Following are a few more features found only in the Hinman. No vacuum in pail; quick pail-changing system. Visible milk flow; no piping. Just a simple drive rod; only two moving parts. THE HINMAN BOOKLET, 32 pages, illustrated in color, is really a treatise on how to select the best milker. Copy for the asking.

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—TO BE CONTINUED—WATCH THE ARROW

DAIRY CATTLE.

CHESTERBROOK GUERNSEYS

ADVANCED REGISTRY Cows with high records and Bull Calves from ADVANCED REGISTRY stock for sale. Write for circulars.

R. A. COLGAN, Mgr., Berwyn, Pa.

Country Life Farm

Offers for sale a Registered Holstein Bull, born March 22, 1913. His dam and sire's dam average for 7 days, milk 544.06 lbs., butter 29.26 lbs. He is ready for light service right now. His grand dam is a dam of 2 A. R. O. daughters and gave 18,000 lbs. of milk in a year. Will sell this bull to make room, for \$200, with all papers. F. O. B. cars at this station.

H. H. WHEELER, West Winfield, N. Y.

Bargain in Holsteins.

We have sixty head of cows and heifers more than we can stable and will have to sell. If interested, visit immediately.

STEVENS BROTHERS CO., LIVERPOOL, N. Y.

REGISTERED AND HIGH GRADE HOLSTEINS

30 cows, 20 and 2½ yr. olds, some of them bred; 10 bulls, ready for service; all registered, 60 high grade 2 and 3 yr. old heifers bred to reg. bull; 20 extra fine black grade cows. High grade heifer calves \$15 each; also reg. heifer and bull calves at farmer's prices. READMAN BROS., Tully, N. Y.

WORLD'S RECORD AYRSHIRES.

CHAMPION BROWN KATIE, 23022 lbs. milk in one year, WHITE BEAUTY, 22915 lbs. of milk in 5 yrs. Their sons head our herd. Bull calves from Advanced Reg. dams for sale. Berkshires, The big kind. 10th sec. cal. All ages Penhurst Farm, Narberth, Pa.

Holstein Cattle of the most fashionable breeding. Bull calves only for sale. H. F. JONES, South Montrose, Pa.

Holstein Friesian Cattle. Royal breeding. Get A. R. O. bull calves. Write HOME FARM, Center Valley, Pa.

Guernseys—Get a bull which will stamp his merit on your herd. Fred W. Card, Sylvania, Pa.

Jerseys—Blood of Rutana's Oxford Lad, Golden Fern's Lad, Elmest, Calves, both sexes. Fred G. W. Hunt, Allentown, Pa.

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Ever considered the danger of using a flimsy silo ladder? Or the annoyance of doors that stick? Or the loss in feeding value of silage from a cheap silo? Or the risk from storms? Better investigate silos? Better investigate the Harder with its ladder of massive strength, its perfect-fitting doors, its excellence of material and construction, its Anchors which hold the silo solid as an oak; the oldest, most famous, the kind "Uncle Sam" uses.

HARDER SILOS

Built like a Hollow Log Preserved within Anchored without

Made permanent and substantial by Harder Spine-Dowels. More durable than concrete. More profitable than tile. Easier and safer to operate than any others. Catalog free. AGENTS WANTED in new territory. HARDER MANUFACTURING CO. Cobleskill, N. Y. Box 18.

International Special Molasses Feed

INCREASE YOUR MILK PRODUCTION. SAVE MONEY ON YOUR FEED BILL. IMPROVE CONDITION OF YOUR COWS.



INTERNATIONAL SPECIAL MOLASSES FEED is composed of ground grains, cotton seed meal and molasses. Is far superior to ordinary mill feeds for mixing with ensilage or with home grown grains, also used for mixing with Gluten. However's grains, etc. You will save money on your feed bill and largely increase milk production by its use.

Our feeding directions will tell you how to obtain a balanced ration by using International Special Molasses Feed with any other feed.

Ask your dealer for International Special Molasses Feed. If he doesn't keep it for sale, then send us your dealer's name and address—we will arrange with him to supply you.

INTERNATIONAL SUGAR FEED COMPANY

M. W. SAVAGE, Pres., MINNEAPOLIS, MINN. (1)



Keeps Cows Clean and Comfortable

LANSLOWNE STALLS AND STANCHIONS mean less work, increased profits and they repay their cost many times over. Cows will give more milk, keep in better condition, and standing or lying down, are always comfortable. If you want a sanitary stall that can be kept sweet and clean at small cost, you should get our prices. Write to us for prices and catalogue. Dairymen Supply Co., Lansdowne, Philadelphia and Pittsburgh, Pa.

The Feed That Fattens High Grade COTTON SEED MEAL Write or wire for delivered prices. The William A. Barnett Company, (Established 1901) Louisville, Ky.

Poultry

HOW AND WHERE TO KEEP HONEY.

The nectar, when first brought in, is mostly retained in the honey-sacs for ripening, being unloaded very unripe only when the supply is so great that these sacs cannot hold it all. From the time in the morning that enough nectar is brought in to load the sacs of the inside workers, the bees carry around their loads of nectar. If it comes in too fast for them, they stick it in wherever there is an empty cell, often putting small drops here and there about the combs where there is a little cup or cavity that will hold a drop, later gathering it up and storing it regularly where wanted. They can be seen after a hard day's work fanning at the entrance, sending air into the hive to evaporate the moisture that is in the nectar when gathered. When the cells are finished and nearly filled with honey, they are allowed to remain open a few days, that the extra water may evaporate, and the honey be properly cured. They are then sealed or capped over with wax, and the work is done.

When honey is taken from the hives it should not be stored in a cool cellar, as you would store fruit and vegetables, but, on the contrary, it should be stored in a warm, dry room. Keeping honey

the aim in honey production, and the product should be put upon the market in attractive shape. It seems foolish to neglect honey, after once having obtained it, till it deteriorates to a second or third-class product. Some have not learned that it is just as important to take proper care of the honey, and put it on the market in first-class condition, as it is to use the best and most economical means of securing it. One of the essentials of proper care is to keep the honey in a dry and airy place; especially is this true of comb honey, or extracted honey in open cans. Honey taints very easily, and for this reason I prefer that as little smoke as possible be used when putting on bee escapes. It is a mistake to sell sections of honey to a customer without telling him or her to put them in a warm, dry place. Under natural conditions honey will keep indefinitely. The public must be educated as to the uses and benefits of pure honey. Scarcely one person in fifty thinks of honey as any thing but a luxury. If people could be persuaded to read and believe the literature gotten out by apiarists, and if the newspapers and other publications would print well-written and authoritative articles on the bee, and on honey as a food, the demand would doubtless increase tenfold in a year. I believe that nearly one-half of my customers have lately been convinced that it is not only a delicious, but beneficial food.

If you want to surprise your family or friends with a toothsome bite, take some liquid honey, which has recently been separated from the comb, pour it into stout paper bags and set it in a dry place to solidify, which it will do very rapidly during October or November. When ready for use, tear the paper bag from the candied honey, as you would the skin from a bologna, cut off a slice and serve. I have known people to prefer this to comb honey.—F. G. Herman, Bergen Co., N. J.

CHICKENS ON RANGE.

There is no question but that chickens will do better on range than where they are yarded, and it is far less work to care for them. We have our brooder houses as close and convenient as is practical so long as they need artificial heat; after which the fowls are moved to the fields where they have abundance of good clean pasture and range. This is generally done when they are seven or eight weeks old. The houses are 8x10 feet with a small coal stove in them and a Hoover 5 feet square around them. This makes a very satisfactory brooder house for 500 chickens.—C. C. McCurdy, Crawford Co., Pa.

"For the land's sake, use Bowker's Fertilizers; they enrich the earth and those who till it."—Adv.

LANDIS' GUARANTEED ROUP CURE for Roup, Colds, Diphtheria and Canker in Poultry and Pigeons. The only remedy that is absolutely guaranteed to cure every case of Roup, Colds, Diphtheria and Canker in Poultry and Pigeons. Refunded and no questions asked. Prepared by C. C. McCurdy, Crawford Co., Pa. Agents for Philadelphia, Pa. and all other cities. Write today. We buy in carloads.

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and all Produce, Potatoes, Onions, Apples, Hay, etc., wanted at good prices. Prompt returns. **GIBBS & BROS., 321-323 N. Front St., PHILADELPHIA.** (Post references—Established 70 years.)

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Ship your live poultry, dressed calves and hogs, market prices. FRED YOST & CO., General Commission Merchants, Newark, N. J.



CHICKENS ON RANGE; HOUSED IN COLONY HOUSES. On Farm of C. C. McCurdy, Crawford Co., Pa.



Let Me Help You Get Winter Eggs

Dr. Hess Stock Tonic

Your cows, horses and hogs are pretty apt to get out of fat during winter, because grain, hay and fodder do not contain the natural laxatives and tonics so abundantly supplied in grass. Lack of exercise is another thing that retards good health. Dr. Hess Stock Tonic contains tonics that improve the appetite and tone up the digestion, laxative for regulating the bowels, and vermifuges that will positively expel worms. I guarantee it. 25-lb. pail \$1.00. 100-lb. sack \$5.00. Smaller packages as low as 50c. Except in Canada, the far West and the South.

Dr. Hess Instant Louse Killer

Kills lice on poultry and all farm stock. Dust the hens and chicks with it, sprinkle it on the roosts, in the cracks or if kept in the dust bath, it will distribute it. Also destroys bugs on cucumbers, squash and melons. 25-lb. pail \$1.00. 100-lb. sack \$5.00. Except in Canada, the far West and the South. I guarantee it.

I make my biggest egg profits in the winter months, because I see to it that my own hens lay regularly then. You can make your hens lay in winter the same as mine do.

Under ordinary winter conditions hens lay poorly, because they are cooped up, deprived of green stuff and cannot get exercise. The egg organs consequently become sluggish and inactive and the hen puts on fat instead of converting her ration into eggs. Hens must have a tonic during winter to tone them up, invigorate the dormant egg organs and keep them healthy.

Dr. Hess Poultry PAN-A-C-E-A

is just such a tonic. It makes hens lay. It contains ingredients for toning up and all noted veterinarians certify each ingredient to do what I claim for it. Pan-a-c-e-a is a scientific preparation—back of it is my 25 years' experience. I don't want you to try my Pan-a-c-e-a on anybody's claim or say so, but on a

Money-Back Guarantee

So sure am I that Dr. Hess Poultry Pan-a-c-e-a will make your hens lay during winter, that I have authorized your dealer to supply you with enough to feed your whole flock, and if it does not do as I claim, return the empty packages and get your money back. Pan-a-c-e-a is never sold by peddlers, only by reliable dealers whom you know. 25-lb. pail \$1.00. 100-lb. sack \$5.00. Except in Canada and the far West. Send for my new poultry book—it's a stunner and it's free.

DR. HESS & CLARK Ashland, Ohio



Send for our Illustrated Booklet

Describing the Ideal Coal Stove Brooder with Automatic Regulator. Heats poultry houses and broods large flocks. Superior to all brooders in safety, economy and amount of heat. It is made of a firm which has manufactured stoves for over 40 years. The adjustable heater to the Ideal Coal Stove Brooder is regulated with pulleys and cords (see illustration). The heater can be adjusted according to the temperature. Economy, plus effectiveness, is found in the Ideal Coal Stove Brooder. Liberty Stove Co., 114 N. 2d St., Phila., Pa.

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The Most Wonderful Singers in the World! GOLDEN OPERA SINGERS (name copyrighted). Trained in Germany to sing the most beautiful melody. Even more wonderful than the Talking Machine! They cost little more than an ordinary canary—give ten times the pleasure. A constant delight for the whole family. Sold on **TWO WEEKS' FREE TRIAL**, with money back without question if not satisfied. Send for our free book that tells what they can do, how they are trained and how we ship them all over the world. Write today. **CUGLEY & MULLEN CO., 1279 Market St., Phila.** (The Largest Bird Store in the World.) Guaranteed Talking Parrots as low as \$5.00.

FRESH EGGS

Are scarce and high now. Why not double your egg yield by feeding your hens our **GREEN GROUND BONE**

(Ground fresh daily from our trimmings and guaranteed pure.) **Cudahy Packing Company** 902 Girard Ave. Philadelphia, Pa.

WANTED

POULTRY, CALVES, FANCY EGGS, BUTTER, POTATOES, APPLES AND ALL FRUITS AND VEGETABLES. TOP PRICES FOR CHOICE GOODS. **ARCIDEACON & CO., 100 Murray St., New York**

POULTRY EGGS CALVES

Dressed meats, nuts, and butter. Shipment solicited by **JELIFFE, WRIGHT & CO., 284 Washington St., and West Washington Market, New York.**

Parcel Post Egg Boxes NEW FLATS AND FILLSERS. **H. K. BRUNNER, 45 Harrison St., New York**

BOUGHT—Hens, Poultry, Ducks, Geese, and all kinds of birds and animals. **William J. Mackensen, Box 312, Yardley, Penna.**

FERRETS FOR SALE. Catalog Free. **GLENDAL FERRET CO., Wellington, Ohio.**

POULTRY.

FOR SALE—White Indian Runner Ducks \$5 each; Imperial Pekin Ducks \$2 each; White Leghorn Poultry \$2 each; 800 White Leghorn Poultry \$2 each. March hatched. Brown on free range. From the leading strains.

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Live Stock

DISPOSING OF THE BROOD SOWS.

The measure of success with which one meets in his business depends largely upon the manner in which he handles the machinery used in the business. The brood sows on the farm represent an important part of the machinery that furnishes the young animals that consume much of the coarse and refuse material in the shape of feed, and convert it into palatable and marketable meat. At this time of the year, when prices for good and heavy hogs are high, there is a temptation to fatten and sell the brood sows, and substitute in their stead some younger animals, a course which we believe is poor policy for several reasons, some of which we will mention.

In the first place, the mature brood sow has proven her capabilities to produce good large litters of pigs, if she has been of the right sort, while with the young sow it is a matter of experi-

the treatment of the young sows is to develop them and make worthy matrons that can take the place of the older ones that, in due time, will be a credit to both herd and breed.

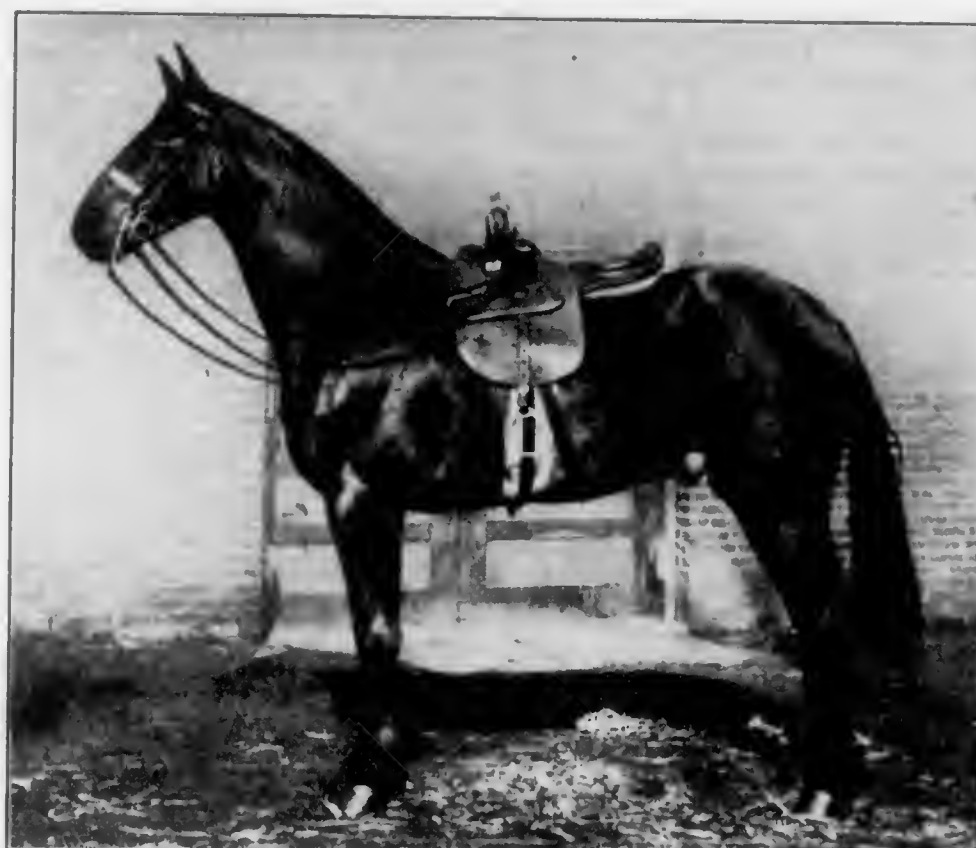
Selected as they usually are on the farm, with but little consideration as to what their general characteristics are, whether good or bad, and bred in the early part of winter, allowed to run in the barnyard, rustling for a living after the cattle, the young sows are likely to prove to be unsatisfactory machines to turn out a supply of feeding pigs the first year. They are likely to be restless at farrowing time, and destroy, in one way or another, a large percentage of their pigs. Many a young farmer has met a severe disappointment, after he had, for a few immediate dollars, turned off the reliable old matrons on the farm and substituted something younger and cheaper, when at farrowing time the numbers of the living increase were few and inferior in quality, while the prospective price of pork was still satisfactory.

Unless the mature sows have become

killed in the stamping out of infectious diseases are proper expenses in the ordinary course of government, and something like \$50,000 is thus made available for distribution among farmers, cattle dealers and butchers as the legislature intended it to be. Attorney General Bell has informed Auditor General Powell that he should make the payments, and it is not thought that Mr. Powell will pick out this item to make a test case. The opinion was given in the handling of half a dozen items in which it was also declared that appropriations for aid of agricultural societies and for purchase of forest reserves and for repayment to counties of cost of primary elections were ordinary expenses. The section of the opinion relating to the cattle bills is important because it shows for the first time the exact status of this branch of the state government. Attorney General Bell says:

"A review of this legislation demonstrates that the Legislature, deeming it of prime importance that the health of the domestic animals of the state be preserved, not only for the protection of the animal industries of the state, but also for the protection of the health of the inhabitants thereof, by preventing the spread of dangerous, infectious or contagious diseases transmissible from animals to human beings, established our present State Livestock Sanitary Board.

"One of the methods prescribed by existing legislation for preventing the spread of disease is the destruction of diseased domestic animals. Recognizing the fact that the owners of animals condemned by the representatives of the state should be reimbursed to some extent for the loss which they have suffered in the interest of the public good, a method for the payment of a reasonable indemnity was provided. The payment of this indemnity is one of the expenses incident to the protection of the health of our domestic animals, and the health of the inhabitants of the state, and is an expense which recurs from year to year, and may be expected to continue until the Legislature sees fit to change our present methods. You are accordingly advised that the item in the General Appropriation Act of 1913, now under discussion, was, in the opinion of this Department, properly included therein."



A LANCASTER COUNTY PRODUCT. A TYPE OF SADDLE HORSE THAT IS ALWAYS IN DEMAND.

ment, and in the majority of cases the first litters are not as large as those from the mature sows. In the second place, the mature sow transmits to her litter of pigs more vital energy and constitutional vigor, and from the beginning of the life of the pigs there is a predisposition to eat more, and grow more rapidly than with the pigs from a young sow. And again, the mature sow furnishes a larger supply of milk, which gives the pigs a better start in life and helps to insure better size all along during the feeding period.

The strong constitutioned animal that eats greedily, grows and fattens rapidly, makes more meat from a given amount of feed than the "pinch-cropped" animal that can consume but little more than enough each day to sustain life. Given the same chance, as many farmers express it, the young sow's pigs do not grow as large, and there is a tendency to reduce the size of the winter stock of hogs on the farm if young sows are substituted for the mature ones.

From the standpoint of the breeder of purebred hogs, and where there is a special effort made to improve the individual members of the herd, and if from a sire that is making great improvements, the case is different; for by selecting the best specimens from among the young ones, and testing them while the older ones are yet in the herd, one may gain a few points. In such cases

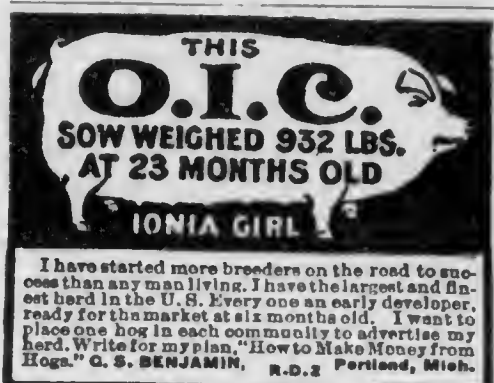
addicted to some bad habits that call for their dismissal, we believe that the matter should be given a good deal of consideration before the old, tried and true matrons are disposed of and the young and immature ones substituted for them. The immediate price on account of greater weights at market prices may seem tempting, but generally, before the year comes around, it will be found that a mistake has been made and that the balance of dollars is on the wrong side of the ledger.

At this point the question of age limit may arise in the minds of some. There are cases on record where noted sows have been retained in breeding herds until 15 years of age, and still doing good service. It is a rare thing for a sow to be allowed to reach the senile and fruitless period, and be disposed of for that and no other reason. Numerous and sometimes too hurried changes in the general conduct of the pork-making business on the farm are reasons for their dismissal a long time before they have lived out their period of usefulness in the service of their owner.—N. C. Chester Co., Pa.

STATE CATTLE BILLS PAID.

After months of sparring the Pennsylvania state officials have decided that appropriations made in the general appropriation bill for reimbursement of owners of cattle which happen to be

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Philadelphia, Pa., December 6, 1913.

A YEAR'S RECORD.

It is just one year since we announced the reduction in our subscription price from \$1.00 to 50 cents a year. In that time, instead of lowering the quality of our paper, as our competitors claimed we would have to do, we have bettered it in many ways, and have increased our editorial expense almost 50 percent. In the same time the generous support of our readers has enabled us to increase our subscription list almost one-third, until the Pennsylvania Farmer has over 40,000 subscribers, which is more than the paper in which we circulate than any other farm weekly.

Pennsylvania Farmer is your home paper, devoted to your particular needs, and is best fitted to meet them because it limits its attention to a small field without trying to cover the entire country. At 50 cents a year it is giving you more for your money than can be gotten in any other farm paper, and the coming year will see many improvements and even more for your money.

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A government quarantine forbidding the importation of potatoes from all parts of Canada and Europe promises to be an important factor in sustaining prices on the home-grown product this year. A quarantine is now in effect against the British Isles, Germany, Austria Hungary and Newfoundland. The proposed extension of this to include Canada and European countries is for the purpose of preventing the introduction of the powdery scab and other diseases. A public hearing to consider such extension of quarantine has been set for December 18, at Washington. A representative of the Irish Department of Agriculture has been before the federal authorities seeking to have the ban on Irish potatoes raised. He urges that the disease known as the potato wart, for which the potatoes from his country were barred, is

not as serious a menace as was once supposed, and has been so well controlled in his country that importation would be safe. The authorities of this country are not yet willing to accept this, and because of the additional menace from powdery scab, it is probable that the quarantine will be strengthened rather than weakened. In a season like the present, when the domestic crop was short, imported potatoes would be a large factor in determining domestic prices, particularly since the tariff duties have been removed. While neither the present quarantine or the proposed extension of it take into consideration the effect on prices, it looks as though the farmers were to profit by the condition. It is not often that they are thus favored.

The annual season of the Farmers' Institutes is now on. Season. and will continue in this state thru the greater part of the winter. This is one institution that does not grow old or out of tune with the growing needs of its field. It is a commendable reflection upon the men who have the institutes in charge as well as the men who are assigned to active institute work that interest and attendance hold up so well. Figures on attendance are sufficient evidence that there is an urgent demand for this method of disseminating agricultural information. The increasing attendance each year is no doubt due to the fact that the successful institute directors are becoming more and more insistent upon real institute ability in their speakers. It is not enough that a speaker be a successful farmer and has demonstrated his ability in the various branches of farming. Neither is it enough that a speaker be a good entertainer, or that he be a student of theory and practice and be able to talk in an interesting way of the principles of farming. The successful institute speakers must combine all of these qualities, and their success depends upon their power to inspire and convince thru the weight of their combined qualities. Occasionally there is a note of dissatisfaction from individuals or communities that feel that they have not profited sufficiently from a certain institute or a series of institutes. Very frequently such dissatisfaction arises from the fact that local audiences have not demanded what they want and have not made the full use of the men assigned to them. Remember that the speaker is at your service while he is with you. You will help him and will make the institute of greater service to your community if you acquaint him of local conditions and local needs, and draw from him the information wanted by courteous and helpful questioning. The speakers are usually very willing to respond to such suggestions, and if they cannot give all the information wanted, they can and will tell where such information can be secured or will assist in making the information available. If you do not get all of what you want, take an honest share of the blame upon yourselves, and do not lay it all on the institute or on any speaker. A request to the county supervisor of institutes or to the state director will insure discussion of the subjects in which you are most interested.

Regulation of distribution and marketing of farm products is the greatest single problem before the farmers today. Its importance is emphasized by the frequent boycotting of specific commodities by city housewives. The first of these nonsensical efforts to reduce selling prices by temporarily reducing the demand was regarded more or less

as a joke. But they have become more frequent, and while they have never been known to exercise anything but a brief demoralizing influence upon local markets, they are anything but a joke to the farmers. One of the first of these boycotts was declared against meats in a city of the Middle West. It lasted but a few weeks. The influence was probably never felt by the meat packers whose sales covered the entire country. But it was made the excuse for a heavy decrease in price of live cattle in the surrounding farming district while the "strike" was on. The packers made enough on their purchases at these reductions to cover any losses they may have sustained, but the farmers who had in a season's steers ready for sale for those weeks lost heavily, and they were the only losers. Boycotts on eggs and butter now appear to be the popular things. The food speculators who have selling facilities in a string of cities suffer only a brief inconvenience from such boycotts, but the full weight of decreased prices and demoralized market conditions fall upon the local farmers who have butter and eggs to sell. The ladies who engineer these boycotts are loud in their declarations that they want to fight the packers and speculators only, and that they are well aware of the helplessness of the farmer in affecting prices. But the fact remains that their spasmodic "strikes" affect only the farmer and further decrease the small share which he gets of the consumer's dollar. Until they learn the futility of such tactics, the farmers may well pray to be delivered from these spasmodic upheavals engineered by their misguided friends. The food boycott is one of the numerous evils of the present unorganized marketing system, not a cure.

Probably the most important subject to come before the session of Congress which opened this week will be the regulation of trusts. Past experiences in so-called trust busting have been such as to suggest the absolute need of further legislation. The dissolution of a combination into a number of smaller organizations, officered and controlled by the officers and directors of the original trust, has appeared to be a useless and unavailing procedure. A number of trusts have been dissolved in this manner. Practical results have not been apparent, either in decreased control of prices or in size of dividends. The greatest practical benefits from the past efforts at control of trusts have appeared to be in raising a number of questions which must be met before a satisfactory solution can be arrived at. It has yet to be determined if all trusts or monopolies are objectionable. It appears to be possible to organize a business in such a way as to reduce cost of production and cheapen selling costs to consumers and exercise none of the objectionable features of the undesirable monopolies. This is the plea of the so-called Harvester Trust, now under prosecution. It appears, also, that certain products and commodities enjoy peculiar relations to the commercial world which should be exempted from the operations of an anti-trust law. Among these are farm products and organized labor, both of which are temporarily exempt. Before Congress can proceed with effectual legislation it seems that it must first determine what constitutes an objectionable monopoly, how to differentiate it from the unobjectionable, and whether exemptions from a general law can be made permanent or merely temporary until the trust has reached dangerous proportions. The fight in the new session promises to be fully as interesting

and as important as those on the tariff and currency bills in the closed session. A bill already drafted, providing for control rather than dissolution, thru the agency of an inter-state trade commission somewhat similar to our Interstate Commerce Commission in functions, deserves special attention.

State Capital News
Urging Federal Law.—Dairy and Food Commissioner Foust is out in interviews saying that a federal law is necessary to regulate food shipments between the states. He says that it is not the farmer or the warehouse owner that is making trouble in food prices, but the speculator, who can shunt his stored foods from one state to the other and make a mockery of the time limit on foods. It is impossible to identify every chicken, egg or pound of butter once they are taken out a container, and this jockeying of foodstuffs from one state to another is declared to be the most serious problem.

New Health Rules.—In the exercise of its paternal functions the State Department of Health has just issued a series of new health rules. The common drinking cup has been banished from bars, office buildings, factories and stores. Now the common cup has been prohibited entirely and with it goes the common towel, so well known in hotels, factories, etc., and the whiskbrush that barbers ply over the eye- brows of their customers. The common shaving brush will likely go next. In addition, the commissioner has issued notice that keepers of hotels, restaurants, cafes, eating houses and boarding houses must see that things are better cleaned before being sent to the tables. The department has full authority to purify things.

State's Huge Business.—As forecasted in this letter months ago, the operations of the state treasury have broken all records. The fiscal year closed on Saturday, although it closed on the last day of the eleventh month instead of with the calendar year no one here attempts to say. It is one of those anachronisms that have come down from a time when the convenience of some public servant was given more consideration than some 24,000 corporations and numerous individuals having financial business with the state. Anyway, the state income approximated \$35,348,616.35, or about \$3,000,000 higher than last fiscal year. But the payments soared to \$37,566,196.27, being over \$2,000,000 greater than last year. The state has a balance of \$7,564,269.78, of which \$6,765,497.50 is in the general fund available for payments. The payments in November went to \$6,445,724.64, breaking all records for a month. All breaking all records for a month. All breaking all records for a month.

Princeton Farm.—This has been another successful year at the Princeton University farm. The plan last summer was to have each student take care of half an acre outside of his regular work on the farm. The farm plowed and harrowed for him, gave him the seed and guaranteed to sell his produce for him. Prizes were offered for the best patches, totalling \$400 in all. P. B. MacCreedy, 1910, won the first prize of \$150. For their regular work the students are paid \$2 for a day of 8 hours. During the summer they were roomed free in one of the dormitories, their board being at a cost rate. This is one of Princeton's largest sources of revenue for the self-supporting undergraduate.

Rural Night School.—Middletown township, in Monmouth county, has again set the pace for rural school districts in New Jersey. Besides full courses in agriculture, domestic science and manual training in the regular high school, and free educational moving picture shows, a night school has now been opened where the farmer boys and girls may avail themselves of a grand opportunity to improve their earlier educations. So far, 65 pupils have been enrolled, and this number will be greatly increased. The branches taught are business arithmetic, English composition, agriculture, spelling and penmanship. Of the nine members of the Middletown Board of Education, six are practical farmers. The president of the board, M. A. Rice, is well known as a breeder of Brown Swiss cattle, as an alfalfa expert, and is also a member of the State Board of Education.

State College Notes.—The short courses in agriculture will give Monday, December 8, and will close Monday, December 9. Students are offered their choice of four courses—general agriculture and dairy farming, fruit growing and market gardening, poultry husbandry and home economics. The Farmers' Week

program will begin December 26. All short-course students are expected to attend these sessions. The sophomores in the agricultural courses are to send two representatives to study the agricultural work at Cornell during the Christmas vacation. The seniors are to take a trip thru the middle western colleges and universities.

Reclamation Work.—Wonderful work has been accomplished in Burlington county on a stretch of sandy land by the inmates of the almshouse. This soil was thin and worn out, and has been built up with little or no commercial fertilizers, but all the manure made by the stock on the farm has been used to good advantage, and then, cover there's the key to the success. Sweet potatoes, 150 barrels per acre, and white dent corn, 90 bushels per acre, are some of the results of such farming. The state now plans to purchase a large tract of such land and establish thereon a colony of defectives and other unfortunate and convert them into a useful force in society.

Farmers' Institutes.—The first farmers' institute of the season at Freehold, in Monmouth county, was attended by several hundred farmers. The main feature was the lecture on "Farm Demonstration" by Prof. Agee. This address was very well received, especially since every grange in the county has gone on record as favoring the appointment of a farm demonstrator. Dairying occupied the boards at the Flomington county institute at Flemington. This is a fine grass county, and the speakers urged the farmers to improve their opportunities in the direction of the dairy industry. Joseph Wing, of Ohio, gave an instructive and entertaining address on alfalfa. Poultry raising and truck farming were the principal subjects discussed at the Ocean county institute at Toms River. The first Mercer county institute was held at Lawrenceville, in connection with a meeting of the county board of agriculture and under the auspices of the grange. A committee was appointed to investigate and report upon a protest received from the Salem county granges against the centralization of power in the State Board of Education. No doubt other granges thruout the state will be asked to consider the subject, for it cannot be denied that there is considerable dissatisfaction with the arbitrary rules that are being enforced by the state board, and with some of the laws that have been passed thru the efforts of some of its members.

Agricultural Contests.—The boys' corn contests, girls' contests in sewing, baking, etc., have about all been decided. That in Ocean county was held in connection with the recent farmers' institute, and surpassed the great event of last year. That for Monmouth county had a total of but 123 entries, but the quality was high. A noticeable and much-remarked feature was that boys of foreign parentage won the first prizes for both corn and potatoes. There were over 500 exhibits at the Sussex county contest. No better field corn could possibly be grown than that shown. The girls' garden contest was particularly interesting. Many of the girls in this contest announced that they had found a ready market for their canned tomatoes with merchants and private families. Thru the good offices of H. W. Gilbertson, superintendent of the farm bureau, the Lackawanna dining car service has agreed also to purchase the tomatoes put up by the girls in this contest, at a price that will net them \$1.50 per bushel for all the fruit they raised. There were more than 200 contestants in the Camden county boys' corn contest alone. Honors were taken by Charles Stamp, eight years old, who won first prize for both the champion ear and the best five stalks and ears. Randall Stafford, 12 years old, produced 106 bushels of shelled corn on an acre of land. Professor Agee, who has taken a great interest in these corn contests, says: "The value of these contests is that they get the father in closer touch with the boy. When you parents get more interested in helping your boy to grow the best corn you will also begin to get interested in his life and in his school work, so that after awhile you'll try to learn what he's the best way to a him to grab hold of the world's work when he gets away from home."

Joint Crop Show.—In connection with the joint exhibition of the New Jersey State Board of Agriculture and the State Horticultural Society, which will be held at the Second Regiment Armory, Trenton, December 8 to 12, i

the specific appropriation act in an outburst of care in 1909 and has not made subsequent acts conform.

Auxiliaries Start Soon.—The plan of the State Forestry department is to start the auxiliary forest reserves in the next few months and applications are now being considered. In a number of instances farmers owning large stretches of woodland have placed their properties under state control, getting the benefit of reduced valuation while the timber is maturing.

Sealers on the Job.—Four more counties have been added to the 32 having county sealers of weights and measures, and about 20 of the cities have such offices. In another year it is expected that practically all of the counties will have these officers and the dishonest measures and weights, which have been so much complained of in markets, will be cut down. The experience of the sealers has shown that it is the itinerant huckster who uses the short measure or the "double ender" and that his enterprises have done much to bring many into disrepute undeservedly. The sealers are giving notice that the new commodities law will become effective on January 1.

Seed Law Next.—The next law to go into effect will be the pure seed law of 1913, which will become operative on January 1. Many inquiries about the law are being made at the Capitol, and as a rule the comments are favorable. For the first time the state will be able to control the sale of seeds by a standard and will keep out adulterations more than ever.

Game Law Worked Well.—Altho it is too soon to tell much, the reports received by the state game authorities indicate that the new hunters' license law worked well. It enabled farmers to keep people off their lands better than heretofore, and will be the means of identification of trespassers and mischief makers that the people of the rural communities have lacked.—Harrisburg, Pa., Dec. 1, 1913.

NEW JERSEY FARM NEWS
Limestone for Road.—The top dressing of the water-hold macadam road which Sussex county is now building from Newton to Branchville will be of limestone and will be taken from local quarries. The selection of this top dressing was made at the suggestion of the county engineer, who says that the limestone will form a cement dressing on the road and bind it from blowing away in dust. It will be the first time that this material has ever been used in that section.

Princeton Farm.—This has been another successful year at the Princeton University farm. The plan last summer was to have each student take care of half an acre outside of his regular work on the farm. The farm plowed and harrowed for him, gave him the seed and guaranteed to sell his produce for him. Prizes were offered for the best patches, totalling \$400 in all. P. B. MacCreedy, 1910, won the first prize of \$150. For their regular work the students are paid \$2 for a day of 8 hours. During the summer they were roomed free in one of the dormitories, their board being at a cost rate. This is one of Princeton's largest sources of revenue for the self-supporting undergraduate.

Rural Night School.—Middletown township, in Monmouth county, has again set the pace for rural school districts in New Jersey. Besides full courses in agriculture, domestic science and manual training in the regular high school, and free educational moving picture shows, a night school has now been opened where the farmer boys and girls may avail themselves of a grand opportunity to improve their earlier educations. So far, 65 pupils have been enrolled, and this number will be greatly increased. The branches taught are business arithmetic, English composition, agriculture, spelling and penmanship. Of the nine members of the Middletown Board of Education, six are practical farmers. The president of the board, M. A. Rice, is well known as a breeder of Brown Swiss cattle, as an alfalfa expert, and is also a member of the State Board of Education.

State College Notes.—The short courses in agriculture will give Monday, December 8, and will close Monday, December 9. Students are offered their choice of four courses—general agriculture and dairy farming, fruit growing and market gardening, poultry husbandry and home economics. The Farmers' Week

program will begin December 26. All short-course students are expected to attend these sessions. The sophomores in the agricultural courses are to send two representatives to study the agricultural work at Cornell during the Christmas vacation. The seniors are to take a trip thru the middle western colleges and universities.

Reclamation Work.—Wonderful work has been accomplished in Burlington county on a stretch of sandy land by the inmates of the almshouse. This soil was thin and worn out, and has been built up with little or no commercial fertilizers, but all the manure made by the stock on the farm has been used to good advantage, and then, cover there's the key to the success. Sweet potatoes, 150 barrels per acre, and white dent corn, 90 bushels per acre, are some of the results of such farming. The state now plans to purchase a large tract of such land and establish thereon a colony of defectives and other unfortunate and convert them into a useful force in society.

Farmers' Institutes.—The first farmers' institute of the season at Freehold, in Monmouth county, was attended by several hundred farmers. The main feature was the lecture on "Farm Demonstration" by Prof. Agee. This address was very well received, especially since every grange in the county has gone on record as favoring the appointment of a farm demonstrator. Dairying occupied the boards at the Flomington county institute at Flemington. This is a fine grass county, and the speakers urged the farmers to improve their opportunities in the direction of the dairy industry. Joseph Wing, of Ohio, gave an instructive and entertaining address on alfalfa. Poultry raising and truck farming were the principal subjects discussed at the Ocean county institute at Toms River. The first Mercer county institute was held at Lawrenceville, in connection with a meeting of the county board of agriculture and under the auspices of the grange. A committee was appointed to investigate and report upon a protest received from the Salem county granges against the centralization of power in the State Board of Education. No doubt other granges thruout the state will be asked to consider the subject, for it cannot be denied that there is considerable dissatisfaction with the arbitrary rules that are being enforced by the state board, and with some of the laws that have been passed thru the efforts of some of its members.

Agricultural Contests.—The boys' corn contests, girls' contests in sewing, baking, etc., have about all been decided. That in Ocean county was held in connection with the recent farmers' institute, and surpassed the great event of last year. That for Monmouth county had a total of but 123 entries, but the quality was high. A noticeable and much-remarked feature was that boys of foreign parentage won the first prizes for both corn and potatoes. There were over 500 exhibits at the Sussex county contest. No better field corn could possibly be grown than that shown. The girls' garden contest was particularly interesting. Many of the girls in this contest announced that they had found a ready market for their canned tomatoes with merchants and private families. Thru the good offices of H. W. Gilbertson, superintendent of the farm bureau, the Lackawanna dining car service has agreed also to purchase the tomatoes put up by the girls in this contest, at a price that will net them \$1.50 per bushel for all the fruit they raised. There were more than 200 contestants in the Camden county boys' corn contest alone. Honors were taken by Charles Stamp, eight years old, who won first prize for both the champion ear and the best five stalks and ears. Randall Stafford, 12 years old, produced 106 bushels of shelled corn on an acre of land. Professor Agee, who has taken a great interest in these corn contests, says: "The value of these contests is that they get the father in closer touch with the boy. When you parents get more interested in helping your boy to grow the best corn you will also begin to get interested in his life and in his school work, so that after awhile you'll try to learn what he's the best way to a him to grab hold of the world's work when he gets away from home."

Joint Crop Show.—In connection with the joint exhibition of the New Jersey State Board of Agriculture and the State Horticultural Society, which will be held at the Second Regiment Armory, Trenton, December 8 to 12, i

series of lectures on agricultural topics will be delivered daily. Among the speakers will be Professors Weiss, Hendlee, Cook, Agee and Carris, G. W. Martin, Jared Van Wagenen, Jr., Drs. Lipman, Gay and Lewis, and Lucian Fosdick, of Boston, the authority on cranberries.—D. T. Hendrickson.

Few Farmers in Legislature.—The next legislature will contain just 16 farmers. That may be a sufficient number to lighten the whole load, but not too many for the purpose. The lawyers will number 65, which will furnish sufficient legal talent for ordinary purposes. The political complexion of the assembly will show the Republicans to have 79 members, Democrats 46, Progressives 20, and Independents, 5.—D.

FARMERS' WEEK PROGRAM.
Complete program of Farmers' Week, to be held at the Pennsylvania State College, December 29, 1913, to January 3, 1914, is now ready for distribution. It lists a large number of features which will make this year's Farmers' Week one of the best ever held. Complete information, including program, railroad rate information, routes, and general announcements are given in Extension Bulletin No. 2, which will be sent free upon postal card request to Department of Agricultural Extension, State College, Pa.

FOR THE PRACTICAL FARMER.
I have been much interested in Pennsylvania Farmer. The articles are to the point, but not so pointy that they are worthless. I have been getting more information (practical) than from all other farm papers I take, combined.—Prof. W. S. Keiter, Myerstown, Pa.

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Will load, haul and reset from one to six corn shocks, weighing from 1,600 to 2,400 pounds to the load, will take two minutes per shock. Guaranteed to load any shock or pile of corn fodder no matter in what shape it is, whether standing or flat on the ground. We guarantee satisfaction or refund the money. Write for particulars. Cattle Shovel. Saves a lot.

Belleville Shockmover Co., Dept. W., Belleville, Ill.

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Extension Schools.—The state college of agriculture is arranging for 22 extension schools this winter. The faculty will be composed of 11 professors and instructors, and it is planned to reach 1,500 farmers thru these schools. Professors Fippin, Hopper, Knapp and Harris are on the teaching staff. The schools will begin at Ellington, December 1, and close at Cato, February 20.

Veterinary College.—New York is investing \$317,000 in buildings for the state veterinary college. The college already has equipment to the value of \$54,338. The hospital and clinical buildings have recently been formally opened. The college opened in 1896 with 11 students. At present there are 122 in attendance. There are 19 on the faculty of the college.

State Fair.—The state fair commission has decided to run the fair next year for two weeks, with night shows the first week only. The fair will not be open on Labor Day, which is September 7. The commission has recommended a new horticultural building. There is sad need of it.

Committee on Farm Credits.—At a recent meeting of the commission to revise the banking laws, a committee was appointed to consider the matter of rural credits, consisting of Hon. Marc W. Cole, R. B. Van Cortlandt, Prof. W. A. Stocking, J. J. Dillon and W. N. Giles. They have already held one meeting.

Licenses for Grain Merchants.—Commissioner Huse recently asked the attorney general for an opinion on the matter of requiring grain merchants to file a license the same as other commu-

Eastern Shore Society.—A new society was recently organized in Baltimore to be known as the Eastern Shore Society. The main aim seems to be to enjoy at least one dinner a year, which must be of exclusive Eastern Shore products, from its land and water. It is expected that each summer the members will visit in a body one of the many county seats of Ocean City.

Among the members of the executive committee are Dr. J. Clement Clark, Clarence W. Perkins, of Kent; J. Dukes Downes and M. Bates Stephens, of Caroline; J. Y. Brattan, of Somerset. The committee will be enlarged so as to represent every county of the Eastern Shore.

Harford County.—The famous McCreary farm of Harford county, comprising 500 acres, has been sold to Miller Brothers. There is a grand colonial mansion on the farm. In answer to the general complaint of slippery, dangerous roads, the State Roads Commission has sanded some of the roads near Belair. Farmers thruout the state are complaining that the good roads mania is mainly for the use of automobiles, and that such roads make hauling farm products to market very dangerous, especially in the hilly sections.

Cattle Feeding.—Several farmers near Snow Hill have recently been getting some Western stock cattle to carry thru the winter. They get them in good condition, and then in the spring sell them in the city markets. They have found out that buying western cattle in the fall and fattening them is a profitable investment, and helps provide excellent fertilizer to keep up their lands.

Heavy Hogs.—Butchering time has commenced and heavy swine are being reported. In Kent county a number of farmers report last spring pigs as weighing over 300 pounds each. As there seems to be hog cholera in a number of counties, butchering has commenced earlier than usual.

Poultry Show.—Washington county poultry fanciers held a poultry show last week in Hagerstown and had 1,000 entries. Many farmers in that county make poultry raising a very profitable crop.

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Household

HANDKERCHIEF PINMONEY.

By Geneva M. Sewell.

Any ambitious girl or woman may earn a snug sum of pin money at home or provide acceptable Christmas gifts by making pretty handkerchiefs. These may be trimmed with lace bought at the stores, with tatting, with crochet, with footing run with mercerized cotton or with a combination of two of these trimmings. For the centers one may get India linen, linen lawn, handkerchief linen or cross-bar cotton, dimity or lawn. There is ample scope for all prices of handkerchiefs. One thing must apply to any of the work, and that is neatness. It must be the very best you can possibly do. It is never honest to offer for sale anything which you might have done much better. So do the very best you can, and ask a fair remuneration.

There are several ways in which your handkerchiefs may be sold after they are made. They may be placed in some store and a small commission paid; they may be sold from house to house and a commission paid; a sample of each sort may be taken from house to house and orders taken, or they may simply be

skip another row and run one. This is a very dainty, easy design to work. Get fine footing for the handkerchief.

No. 2 has a plain lawn hemstitched center and is trimmed in tatting and "val" lace. This handkerchief, as shown, will sell up to \$1.00 or \$1.25 when well done. It is very showy and durable. The work is all done, then sewed to the handkerchief, fulling it at the corners enough so that it will not draw, or the handkerchief will not look right. If you get it too small for the handkerchief you have made, make a smaller one and fit it to that.

The inside edge used on number two is of tatting made from number 40 thread. It is made like this: Four-drop, 1 picot, 4d, 1p, 4d, 1p, 4d, draw into a ring, turn the work, leave a small space of thread and make 4d, 1p, 4d, 1p, 4d, 1p, 4d, draw into a ring, turn the work, leave a short space of thread (about one-fourth of an inch), and repeat until the strip is long enough. Sew to the lace with over-and-over stitch to the center picot. For the detail of the edge, refer to illustration number three.

CHRISTMAS SHOPPING NOTES.

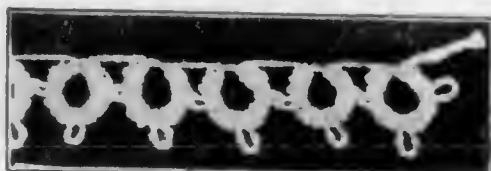
The shops already have on their Christmas air, and all sorts of things are displayed to help the Christmas shopper select her presents. There are



No. 1.

kept in stock at your home and sold as opportunity offers. Each one must choose the way that seems to best suit her individual circumstances.

It is a good plan to buy the goods in not less than yard quantities and to watch where there is a special sale on the goods and lay in a supply large enough to last for a year. Besides the goods you will need thread, mercerized cotton and several yards of footing and lace. If the holes in the footing are very small you will have to use embroidery cotton to work them with as



No. 3.

the crochet cotton will be too coarse. All hems may be hemstitched, or some of them may be rolled; the main thing is to have them put in solidly. They may be any width desired.

No. 1 is a plain lawn handkerchief hemstitched with a narrow hem, then trimmed with footing run with a Greek border. This is a very dainty handkerchief and will readily sell for from 50 to 75 cents, the price depending somewhat upon the location.

A detail of the work in number one follows: Darning thru six holes in the footing diagonally, then six straight across, then six diagonally again; count the last hole of one as the first hole of the next, whether it runs diagonally or straight. Next row, skip one row of holes and run a row clear across, then

gifts assorted and displayed suitable for father, mother, brother, sister and the baby.

Warm, fluffy marabou scarfs, capes and muffs are shown at reasonable prices. These are really warmer than fur and are just the thing for mothers, especially if they have to ride in the cold. Nice marabou or marabou-ostrich combination in a cape or scarf are priced from \$2.50 to \$5, and muffs to match are displayed at from \$3 to \$6. Sets come a little cheaper. The feather capes are newer than the scarfs and are very pretty, being finished at the ends with silk tassels.

Neat and durable handbags are shown at from 75 cents upwards. I saw some excellent black ones with gun-metal trimmings priced at \$1.00, and particularly good ones with mirror, change purse and card case inside for \$1.50.

A silk or lingerie waist makes an acceptable Christmas gift to nearly every woman, old or young. Beautiful silk or chiffon waists may be bought almost anywhere for \$5. And some of the leading stores are showing good black India silk waists in the new models at \$3.95, and some at \$2.95. Sheer lingerie waists in real artistic designs are displayed at \$2. And some plainer ones which also are pretty, at \$1.00 each.

Well-fitting, good-looking chamois-suede gloves are sold at 50 cents a pair. These look well and are warm—just the thing for ordinary wear. Finer ones cost 75 cents. Glace kid gloves are shown at \$1.00 that are attractive in appearance. No woman ever really receives too many gloves at Christmas. Fine neckwear always makes an ac-

ceptible gift, and there are quantities of designs to select from. There are pretty white net fichus at 50 cents to \$1.00, sheer India linen wide collars at 50 cents, India linen collars and cuffs with plaited net ruffles at 50 cents the set. Embroidered batiste collars of exquisite workmanship are shown at 75 cents to \$5 each. The gimpes, with long sleeves, made of net or shadow lace, make a pretty gift. They cost from \$1 to \$3.

It is always rather more difficult to find a suitable present for the father of the household than for the other members of the family. One show window took this into account and had nothing but gifts for men displayed. There were pipes in pretty cases at fifty cents each; safety razors in cases at from 25 cents to \$5. There were knives with metal handles at 85 cents. All kinds of pocketbooks at all kinds of prices. There were change purses, bill folders, combination bill and change purses; these last at 50 cents to \$1. A good-

looking shaving mirror, which would make any man seem attractive, was marked \$4. There were all kinds of brushes—hair brushes, hat brushes, clothes brushes, etc. Whisk brooms in neat leather holders were also shown, together with fountain pens, slippers, scarf pins, handkerchiefs, neckties and gloves.

Warm, quilted eiderdown coats for little babies are shown in the infants' department, and there are eiderdown comforts for baby at \$3.95 each. Of course, a present of this kind would not please baby so much as would a rattle from the five and ten-cent store, but it would please baby's mother. One could make a pretty silkoline comfort, lining it with wool and tufting it with knots of ribbon, for a great deal less money. There are beautiful hand-embroidered bibs for baby at from 75 cents to \$1 each. There are quilted boots, high and edged with fur, just the thing to keep the baby's feet warm when he goes a visiting.

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GENUINE cut glass. Each piece absolutely perfect. Ideal Christmas gifts at astonishingly low figures. "How can Haines sell at such prices?" people ask.

This Cut Glass Celery Dish, \$1.89



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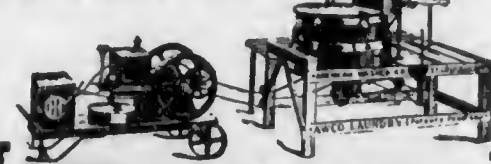


This Cut Glass Sugar and Cream Set

(Exactly like cut) Beautiful butt saw cutting. Most elaborately and fashionably. Richly cut with the scotch top. Retail stores ask \$3. Our factory-to-you price for this set... \$1.75. Add 5c additional for parcel post. Send us a trial order and learn how easily and cheaply you can ship by mail. Satisfaction Guaranteed or Money Refunded.

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Our handsome illustrated catalogue, showing styles and prices for men's and women's sweatercoats will be mailed to you free of charge upon receipt of postal card. Write for one at once.

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Every day you start it looks right—you'd swear it's right—until nearly done—then—No—don't—cure! Just try again, old scout! Absolutely no clue—don't—keep guessing. Makes smart-heads look silly and "lunny"! Some surprise! For the folks and friends, I will send you this wonderful, original, puzzle for only one dime. Do not send stamps. Or 14 puzzles for a dollar bill. Yours for a real puzzle.

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Winston of the Prairie

By HAROLD BINDLOSS

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SYNOPSIS OF PREVIOUS CHAPTERS.

Farmer Winston, having failed as a home-steader, desperate, accepts a proposal to simulate Lance Courthorne, an adventurer. Courthorne and his pals are thus able to carry thru some smuggling operations. In the clash with the police, Courthorne kills Trooper Shannon, leaving evidence pointing to Winston as the murderer. The scene shifts to Silverdale, founded by Colonel Barrington. The Colonel is worried over what operations and the coming advent of Lance Courthorne, cousin to Maud Barrington, niece and ward of Colonel Barrington, to claim his share of his father's estate. Maud Barrington is told of Courthorne's past misdeeds. Winston, meanwhile, has pushed on to Montana, being held and later released for lack of evidence, by a government officer, who discloses the belief on the part of the police, that Winston is the murderer of Trooper Shannon. A letter for Courthorne is opened by Winston. Complying with instructions therein, he meets and confers with a lawyer respecting Courthorne's inherited acres at Silverdale, and following out his role as simulator of Courthorne, goes to Silverdale and is there received as graciously as could be expected. Some of his actions fail to tally with Courthorne's reputation. He wins the good will of Dane, one of the Colonel's drivers. The real Courthorne, who was supposed to have been drowned during the smuggling adventure, now reappears in Montana, inadvertently learns of his inheritance, and pieces together conclusive evidence that Winston has gone to Silverdale. Courthorne and Ally Blake, whose life he has blighted, agree to ignore each other's identity. Winston and Maud Barrington, caught by a blizzard while driving to Silverdale, find shelter in a deserted shed over night, where he acts the part of a considerate gentleman. He succeeds in getting her promise, afterwards kept, to have her land sown in wheat the following spring. The present instalment closes a conversation between Winston and the Colonel on the improved machinery in farm operations.

CHAPTER XII.—Concluded.

Winston nodded. "I used to do so, sir, when I could get nothing better, but after driving oxen for eight years one finds out their disadvantages."

Barrington's face grew a trifle stern. "There are times when you tax our patience, Lance," he said. "Still, there is nothing to be gained by questioning your assertion. What I fail to see, is where your reward for all this will come from, because I am still convinced that the soil will, so to speak, give you back eighty cents for every dollar you put into it. I would, however, like to look at those implements. I have never seen better ones."

He dismounted and helped his companion down, for Winston made no answer. The farmer was never sure what actuated him, but, save in an occasional fit of irony, he had not attempted by any reference to make his past fall into line with Courthorne's since he had first been accepted as the latter at Silverdale. He had taken the dead man's inheritance for a while, but he would stoop no further, and to speak the truth, which he saw was not credited, brought him a grim amusement and also flung a sop to his pride. Presently, however, Miss Barrington turned to him, and there was a kindly gleam in her eyes as she glanced at the splendid horses and widening strip of plowing.

"You have the hope of youth, Lance, to make this venture when all looks black—and it pleases me," she said. "Sometimes I fancy that men had braver hearts than they have now, when I was young."

Winston flushed a trifle, and stretching out an arm swept his hand round the horizon. "All that looked dead a very little while ago, and now you can see the creeping greenness in the soil," he said. "The lean years cannot last forever, and, even if one is beaten again, there is a consolation in knowing that one has made a struggle. Now, I am quite aware that you are fancying a speech of this kind does not come well from me."

Maud Barrington had seen his gesture, and something in the thought that impelled it, as well as the almost statu-

esque pose of his thickly-clad figure, appealed to her. Courthorne as farmer, with the damp of clean effort on his forehead and the stain of the good soil that would faithfully repay it on his garments, had very little in common with the prodigal and gambler. Vaguely she wondered whether he was not working out his own redemption by every wheat furrow torn from the virgin prairie, and then again the doubt crept in. Could this man have ever found pleasure in the mire?

"You will plow your holding, Lance?" asked the elder lady, who had not answered his last speech yet, but meant to later.

"Yes," said the man. "All I can. It's a big venture, and, if it fails, will cripple me, but I seem to feel, apart from any reason I can discern, that wheat is going up again, and I must go thru with this plowing. Of course, it does not sound very sensible."

Miss Barrington looked at him gravely, for there was a curious and steadily-tightening bond between the two. "It depends upon what you mean by sense. Can we reason out all we feel, and is there nothing, intangible but real, behind the impulses which may be sent to us?"

"Well," said Winston, with a little smile, "that is a trifle too deep for me, and it's difficult to think of anything but the work I have to do. But you were the first at Silverdale to hold out a hand to me—and I have a feeling that your good wishes would go a long way now. Is it altogether fantastic to believe that the good-will of my first friend would help to bring me prosperity?"

The white-haired lady's eyes grew momentarily soft, and, with a gravity that did not seem out of place, she moved forward and laid her hand on a big horse's neck, and smiled when the dumb beast responded to her gentle touch.

"It is a good work," she said. "Lance, there is more than dollars, or the bread that somebody is needing, behind what you are doing, and because I loved your mother I know how her approval would have followed you. And now sow in hope, and God speed your plow!"

She turned away almost abruptly, and Winston stood still with one hand closed tightly and a little deeper tint in the bronze of his face, sensible at once of an unchanged resolution and a horrible degradation. Then he saw that the Colonel had helped Miss Barrington into the saddle and her niece was speaking.

"I have something to ask Mr. Courthorne and will overtake you," she said.

The others rode on, and the girl turned to Winston. "I made you a promise and did my best to keep it, but I find it harder than I fancied it would be," she said. "I want you to release me."

"I should like to hear your reasons," said Winston.

The girl made a faint gesture of impatience. "Of course, if you insist."

"I do," said Winston quietly. "Then I promised you to have my holding sown this year, and I am still willing to do so, but the my uncle makes no protest, I know he feels my opposition very keenly, and it hurts me horribly. Unspoken reproaches are the worst to bear, you know, and now Dane and some of the others are following your lead, it is painful to feel that I am

taking part with them against the man who has always been kind to me."

"And you would prefer to be loyal to Colonel Barrington, even if it costs you a good deal?"

"Of course!" said Maud Barrington. "Can you ask me?"

Winston saw the sparkle in her eyes and the half-contemptuous pride in the poise of the shapely head. Loyalty, it was evident, was not a figure of speech with her, but he felt that he had seen enough and turned his face aside.

"I knew it would be difficult when I asked," he said. "Still, I cannot give you back that promise. We are going to see a great change this year, and I have set my heart on making all I can for you."

"But why should you?" asked Maud Barrington, somewhat astonished that she did not feel more angry.

"Well," said Winston gravely, "I may tell you by and by, and in the meanwhile you can set it down to vanity. This may be my last venture at Silverdale, and I want to make it a big success."

The girl glanced at him sharply, and it was because the news caused her an unreasonable concern that there was a trace of irony in her voice.

"Your last venture! Have we been unkind to you, or does it imply that, as you once insinuated, an exemplary life becomes monotonous?"

Winston laughed. "No. I should like to stay here—a very long while," he said, and the girl saw he spoke the truth, as she watched him glance wistfully at the splendid teams, great plows, and rich black soil. "In fact, strange as it may appear, it will be virtue, given the rein for once, that drives me out when I go away."

"But where are you going to?"

Winston glanced vaguely across the prairie, and the girl was puzzled by the look in his eyes. "Back to my own station," he said softly, as tho to himself, and then turned with a little shrug of his shoulders. "In the meanwhile there is a good deal to do, and once more I am sorry I cannot release you."

"Then, there is an end of it. You cannot expect me to beg you to, so we will discuss the practical difficulty. I cannot, under the circumstances, borrow my uncle's teams, and I am told I have not sufficient men or horses to put a large crop in."

"Of course!" said Winston quietly. "Well, I have now the best teams and machines on this part of the prairie, and I am bringing Ontario men in—I will do the plowing—and, if it will make it easier for you, you can pay me for the services."

There was a little flush on the girl's face. "It is all distasteful, but as you will not give me back my word, I will keep it to the letter. Still, it almost makes me reluctant to ask you a further favor."

"This one is promised before you ask it," said Winston quietly.

It cost Maud Barrington some trouble to make her wishes clear, and Winston's smile was not wholly one of pleasure as he listened. One of the young English lads, who was, it appeared, a distant connection of the girl's, had been losing large sums of money at a gaming table, and seeking other equally undesirable relaxations at the railroad settlement. For the sake of his mother in England, Miss Barrington desired him brought to his senses, but was afraid to appeal to the Colonel, whose measures were occasionally more Draconic than wise.

"I will do what I can," said Winston. "Still, I am not sure that a lad of the kind is worth your worrying over, and I am a trifle curious as to what induced you to entrust the mission to me?"

The girl felt embarrassed, but she saw that an answer was expected. "Since you ask, it occurred to me that you could do it better than anybody else," she said. "Please don't misunderstand me, but I fancy it is the other man who is leading him away."

Winston smiled somewhat grimly. "Your meaning is quite plain, and I am already looking forward to the encounter with my fellow-gambler. You believe that I will prove a match for him."

Maud Barrington, to her annoyance, felt the blood creep to her forehead, but she looked at the man steadily, noticing the quiet forcefulness beneath his somewhat caustic amusement.

"Yes," she said, simply; "and I shall be grateful."

In another few minutes she was galloping across the prairie, and when she rejoined her aunt and Barrington, endeavored to draw out the latter's opinion respecting Courthorne's venture by a few discreet questions.

"Heaven knows where he was taught it, but there is no doubt that the man is an excellent farmer," he said. "It is a pity that he is also to all intents and purposes mad."

Miss Barrington glanced at her niece, and both of them smiled, for the Colonel usually took for granted the unsanity of any one who questioned his opinions.

In the meanwhile Winston sat swaying on the driving-seat, mechanically guiding the horses, and noticing how the prairie sod rolled away in black waves beneath the great plow. He heard the crackle of fibers beneath the triple shares, and the swish of greasy loam along the moldboard's side, but his thoughts were far away, and when he raised his head, he looked into the dim future beyond the long furrow that cut the skyline on the rise.

It was shadowy and uncertain, but one thing was clear to him, and that was that he could not stay at Silverdale.

At first, he had almost hoped he might do this, for the good land and the means efficiently working it had been a great temptation. That was before he reckoned on Maud Barrington's attractions, but of late he had seen what these were leading him to, and all that was good in him recoiled from an attempt to win her. Once he had dared to wonder whether it could be done, for his grim life had left him self-centered and bitter, but that mood had passed, and it was with disgust he looked back upon it. Now he knew that the sooner he left Silverdale the less difficult it would make it forger her, but he was still determined to vindicate himself by the work he did, and make her affairs secure. Then, with or without a confession, he would slip back into the obscurity he came from.

While he worked the soft wind rioted about him, and the harbingers of summer passed north in battalions overhead—crane, brant-geese, and mallard, in crescents, skeins, and wedges, after the fashion of their kind. Little long-tailed gophers worked across the whitened sod, and when the great plow rolled thru the shadows of a bluff, jack rabbits, pied white and gray, scurried amidst the rustling leaves. Even the birches were fragrant in that vivifying air, and seemed to rejoice as all animate creatures did, but the man's face grew more somber as the day of toil wore on. Still, he did his work with the grim, unwavering diligence that had already carried him, dismayed but unyielding, thru years of drought and harvest hail, and the stars shone down on the prairies when at last he loosed his second team.

Then, standing in the door of his lonely homestead, he glanced at the great shadowy granaries and barns, and

clenched his hand as he saw what he could do if the things that had been forced upon him were rightfully his. He knew his own mottle, and that he could hold them if he would, but the pale, cold face of a woman rose up in judgment against him, and he also knew that because of the love of her, that was casting its toils about him, he must give them up.

Far back on the prairie a lonely coyote howled, and a faint wind, that was now like snow-cooled wine, brought the sighing of limitless grasses out of the silence. There was no cloud in the crystalline ether, and something in the vastness and stillness that spoke of infinity, brought a curious sense of peace to him. Impostor tho he was, he would leave Silverdale better than he found it, and afterwards it would be of no great moment what became of him. Countless generations of toiling men had borne their petty sorrows before him, and gone back to the dust they sprang from, but still, in due succession, harvest followed seed-time, and the world whirled on. Then, remembering that, in the meanwhile, he had much to do which would commence with the sun on the morrow, he went back into the house and shook the fancies from him.

CHAPTER XIII.

Mastery Recognized.

There was, considering the latest price of wheat, a somewhat astonishing attendance in the long room of the hotel at the railroad settlement one Saturday evening. A big stove in the midst of it diffused a stuffy and almost unnecessary heat, gaudy nicked lamps an uncertain brilliancy, and the place was filled with the drifting smoke of innumerable tobacco. Olographs, barbaric in color and drawing, hung about the roughly-boarded walls, and any critical stranger would have found the saloon comfortable and tawdry.

It was, however, filled that night with bronzed-faced men who expected nothing better. Most of them wore jackets of soft black leather or embroidered deerskin, and the jean trousers and long boots of not a few apparently stood in need of repairing, tho the sprinkling of more conventional apparel and paler faces showed that the storekeepers of the settlement had been drawn together, as well as the prairie farmers who had driven in to buy provisions or take up their mail. There was, however, but little laughter, and their voices were low, for boisterousness and assertion are not generally met with on the silent prairie. Indeed, the attitude of some of the men was mildly deprecatory, as tho they felt that in assisting in what was going forward they were doing an unusual thing. Still, the eyes of all were turned towards the table where a man, who differed widely in appearance from most of them, dealt out the cards.

He wore city clothes, and a white shirt with a fine diamond in the front of it, while there was a keen intentness behind the half-ironical smile in his somewhat colorless face. The whiteness of his long nervous fingers and the quickness of his gestures would also have stamped him as a being of different order from the slowly-spoken prairie farmers, while the slenderness of the little pile of coins in front of him testified that his endeavors to tempt them to speculation on games of chance had met with no very marked success as yet. Gambling for stakes of moment is not a popular amusement in that country where the soil demands his best from every man in return for the scanty dollars it yields him, but the gambler had chosen his time well, and the men who

had borne the dreary solitude of winter in outlying farms, and now only saw another adverse season opening before them, were for once in the mood to clutch at any excitement that would relieve the monotony of their toilsome lives.

A few were betting small sums with an apparent lack of interest which did not in the least deceive the dealer, and when he handed a few dollars out he laughed a little as he turned to the bar-keeper.

"Set them up again. I want a drink to pass the time," he said. "I'll play you at anything you like to put a name to, boys, if this game don't suit you, but you'll have to give me the chance of making my table bill. In my country I've seen folks livelier at a funeral."

The glasses were handed around, but when the gambler reached out towards the silver at his side, a big, bronze-skinned rancher stopped him.

"No," he drawled. "We're not sticking you for a locomotive tank, and this comes out of my treasury. I'll call you three dollars, and take my chances on the draw."

"Well," said the dealer, "that's a little more encouraging. Anybody wanting to make it better?"

A young lad in elaborately-embroidered deerskin with a flushed face leaned upon the table. "Show you how we play cards in the old country," he said. "I'll make it thirty—for a beginning."

There was a momentary silence, for the lad had staked heavily and lost of late, but one or two more bets were made. Then the cards were turned up, and the lad smiled fatuously as he took up his winnings.

"Now I'll let you see," he said. "This time we'll make it fifty."

He won twice more in succession, and the men closed in about the table, while, for the dealer knew when to strike, the glasses went around again, and in the growing interest nobody quite noticed who paid for the refreshment. Then, while the dollars began to trickle in, the lad hung a bill for a hundred down.

"Go on," he said, a trifle huskily. "Tonight you can't beat me!"

Once more he won, and just then two men came quietly into the room. One of them signed to the hotel keeper.

"What's going on? The boys seem kind of keen," he said.

The other man laughed a little. "Ferris has struck a streak of luck, but I wouldn't be very sorry if you got him away, Mr. Courthorne. He has had as much as he can carry already, and I don't want anybody broke up in my house. The boys can look out for themselves, but the Silverdale kid has been losing a good deal lately, and he doesn't know when to stop."

Winston glanced at his companion, who nodded. "The young fool!" he said.

They crossed towards the table in time to see the lad take up his winnings again, and Winston laid his hand quietly upon his shoulder.

"Come along and have a drink while you give the rest a show," he said. "You seem to have done tolerably well, and it's usually wise to stop while the chances are going with you."

The lad turned and stared at him with languid insolence in his half-closed eyes, and tho he came of a lineage that had been famous in the old country, there was nothing very prepossessing in his appearance. His mouth was loose, his face weak in spite of its inherited pride, and there was little need to tell either of the men, who noticed his nervous fingers and muddiness of skin, that

he was one who in the strenuous early days would have worn the wooly crown. "Were you addressing me?" he asked.

"I was," said Winston quietly. "I was in fact inviting you to share our refreshment. You see we have just come in."

"Then," said the lad, "it was con-

demnable impertinence. Since you have taken this fellow up, couldn't you teach him that it's bad taste to thrust his company upon people who don't want it, Dane?"

Winston said nothing, but drew Dane, who flushed a trifle, aside, and when they sat down the latter smiled dryly. (To be continued.)

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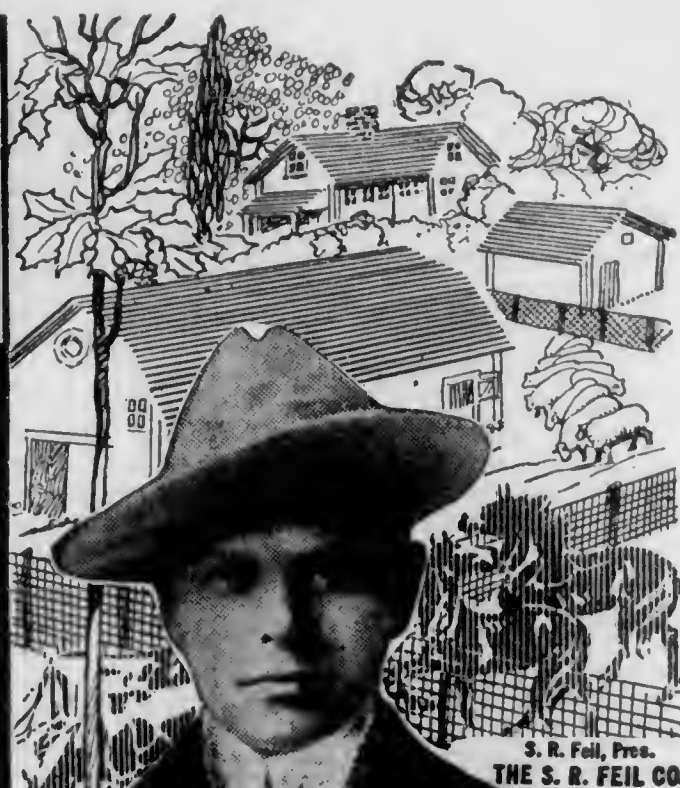
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A Practical Test in Soil Building By The Country Parson.

In the study of my church there is a motto painted on the wall, where it is constantly before the eyes of the clergy: "Vita clerici evangelium est populi."—"The life of the clergy is a gospel to the people." Preaching must be followed by practice. Practice must demonstrate and illustrate preaching. For, "Example is better than precept."

President Butterworth, of the Deere Plow Company, must have had this in mind when he asked Dr. Cyril G. Hopkins if he could demonstrate his theories of soil fertilization and permanent agriculture in actual practice, or if he had just been making a speech to some farmers. It happened, I understand, at the hotel, after a lecture where Doctor Hopkins, like Jeremiah of old, had delivered his message predicting disaster and ruin to the agriculturists of this country unless they turned from their ways of wicked exploitation to the ways demanded of them by scientific truth. What prophet would dare to give any but an affirmative reply to such a question! The result of the interview of these two men was this: Doctor Hopkins agreed to make a demonstration of his teaching on some piece of worn-out ground to be selected by the parties interested. The Deere Plow Company agreed to furnish the necessary funds for purchase and demonstration, with the understanding that its bookkeeper keep exact account of every cent expended or received.

An effort was to be made to show that an utterly exhausted tract of land, at an expense of not more than fifty dollars per acre, could be brought up to a state of productive fertility which would pay a larger return on the investment than the best general farmlands of Illinois. This was not to be done by the application of manures produced on adjacent farms, in other words, by robbing Peter to pay Paul, but by restoring to the soil those chemical constituents which exact investigation showed to be lacking. These chemical constituents were to be applied, not in the form of factory fertilizers, but in their raw state as found in nature. It was also agreed that this tract of land was to have no especial advantage in the way of location. Proximity to market, distance from railroad, conditions for hauling—all were to be such as ordinarily obtain in the average agricultural districts of this country. Surely, this is an interesting proposition. I think that both men, the prophet and his doubting Thomas, deserve the gratitude of every person interested in agriculture for even attempting the solution of such a problem.

I first saw the farm which they selected, about two years ago. It is located in lower Prince George County, Maryland, on the so-called Pope Creek branch of the Pennsylvania Railroad, about three and one-

half miles from the station and sixteen miles distant by wagon road from the National Capital. The tract includes a little more than 500 acres, about 100 of which were cleared, with the balance in second-growth timber. At the time of my first visit not even this was cultivated. The owner had planted a small field of tobacco, another of corn, with a few

is silty rather than clayey in its texture, while the subsoil, on account of its composition and peculiar lenticular structure, offers a resistance to the circulation of water comparable to that of a heavy clay soil. This type of soil is capable of retaining a considerable supply of moisture during the entire growing season. It is, therefore, adapted to the production of grass, wheat and corn where general farming is practiced.

"The soil is not adapted to tobacco, and has consequently been allowed to grow up in scrub forests, so that large portions of it are now uncleared. Such unimproved lands can be bought for \$1.50 to \$5.00 an acre, even within a few miles of the District line. The soil has been badly neglected, and when cultivated the methods have not been such as to promote fertility. It is frequently acid and needs lime and manure, or green crops turned under. When properly handled, as it is in a few places, good yields of wheat, corn and grass are obtained. Upon the whole, it is one of the most promising soils of the locality, altho not considered so by resident farmers."

It would therefore seem that the owners' statements as to the former productiveness of the land selected for the Butterworth-Hopkins demonstration were correct. It also appears that the selection was an eminently fair one for the contemplated experiment. It was a soil, adapted for general farming, little esteemed by resident farmers, badly neglected, run-down by poor methods, acid, poor in calcium and phosphorus and lacking in nitrogen and organic matter. The owner was asking \$10 per acre for the place, and it sold, I think, for \$10 per acre. That was three years ago. It has now been worked for three seasons by Mr. I. S. Brooks, a graduate in agriculture of the University of Illinois, and a former student of Doctor Hopkins. Mr. Brooks is a most efficient and enthusiastic young man, and the personal equation in the working-out of the problem is in no way lacking. Doctor Hopkins visits the farm and directs operations, which are being conducted on the lines described above.

Now, what has been accomplished? And what is the outlook for the future? Aside from the restoration of the house, the removal of dilapidated barns and outbuildings, the general cleaning-up, the intelligent division of the farm into fields, and the erection of a new barn and fences—problems which are bound to vary upon every farm in the country, what progress has been made toward restoring the former productiveness of the old Martin place, or as it is now called, the Deere Farm?

I saw the farm for the second time over one year ago. My time did not permit me to go over it, but in passing, I noticed, with some surprise, the



THE OLD HOMESTEAD ON DEERE FARM, SHOWING GENERAL 'RUN-DOWN' CONDITION OF FARM AND ITS EQUIPMENT.

potatoes, and permitted the rest of his farm to lie fallow, because its cultivation would not pay. These fallow fields were rapidly growing up in scrub pine, which had already covered a considerable portion of ground once under tillage.

An examination of the soil showed it to be a Leonardtown loam, streaked here and there with a



THE OLD HOMESTEAD UNDER PROCESS OF REBUILDING.

lighter and more sandy soil or a gravel where erosion had washed away the richer loams from the hillsides. The Department of Agriculture, in its report on the field operations of the Bureau of Soils, describes this soil with the following words:

"The Leonardtown loam constitutes one of the heaviest types of soils in Prince George County. It

the field fronting on the road had produced a crop of corn. During the month of October, 1912, I again visited the Deere Farm, and carefully went over it, field by field, with the manager, Mr. Brooks. At this visit, I was accompanied by a very successful Baltimore rose and carnation grower, an amateur florist and a successful gardener and trucker, three practical men, two of whom had spent their lives working Maryland soils. I had read an article in the October, 1912, number of a popular magazine on "The Farmer of the Future," in which the writer attacks the teachings of the great German chemist, Liebig, as applied to agriculture, and incidentally discrediting the teachings of Doctor Hopkins. While my confidence in the author of "Soil Fertility and Permanent Agriculture" was in no way shaken by the astounding statements of this magazine writer, I was determined that nothing which might perhaps have given some degree of plausibility to his views should escape my notice. Since two pairs of eyes usually see more than one, I was very glad of the company of my friends. We visited the Deere Farm again in September of this year.

Before we answer the question, what has so far been accomplished, let us have Doctor Hopkins state the problem. "All agricultural plants are composed of ten chemical elements, and the growth of any crop is absolutely dependent upon the supply of these crop food elements. If the supply of any one of these plant food elements is limited, the crop yield will also be limited. The grain and grass crops, such as corn, oats, wheat and timothy, also the root crops and potatoes, secure two elements from the air, one from water, and seven from the soil."

Let us state it thus: Rain—(1) Hydrogen. Air—(2) Carbon; (3) Oxygen. Soil—Organic matter—(4) Nitrogen. Mineral matter, (5) Calcium; (6) Magnesium; (7) Potassium; (8) Iron. Mineral and organic, (9) Phosphorus, and (10) Sulphur.

"The three elements taken from the air and rain make up about 95 percent of our farm crops. It is therefore necessary to determine which of the other seven elements are lacking, and to find some economical method of supplying them, for every one of these other plant food elements is just as essential to the growth and full development of the plant as these three."

"Sulphur rarely, if ever, limits the crop yields under field conditions; and the same may be said of iron, which is required by plants in very small amount and is contained in practically all soils in enormous quantities."

We are concerned therefore with only five plant food elements: Nitrogen, calcium, magnesium, potassium and phosphorus. Ground magnesium limestone, in carload lots, delivered at railroad station, costs \$2.05 per ton. Ground phosphate rock costs about \$8 per ton. Kainit costs about \$9.50 per ton, f. o. b. Baltimore. The supplying of these elements presented no difficulty. But nitrogen and humus, where were they to come from? The farm was too poor to support cattle. There was no pasture in the large woodlot, for the thick underbrush prevented the growth of grasses. Otherwise, Manager Brooks might have followed the plan pursued by a German farmer in St. Mary's County, who built a long cattle shed with doors at each end, into which he can drive his manure spreader, and who gathers up falling leaves and vegetable mould out of his forests, hauls it into this shed, where it, together with straw bedding, is used as an absorbent and hauled to the fields. This man, by the way, has secured a fine stand of alfalfa

by inoculating and applying lime, and his land now grows red and alsike clover. But that is another story.

The Deere Farm was compelled to rely absolutely upon the legumes, cowpeas, soybeans and vetch for a supply of nitrogen and humus. This seemed something of a forlorn hope, so far as a first-season crop was concerned, for the ground needed careful preparation and inoculation to grow soy beans. Cowpeas needed no inoculation, for the partridge pea was quite common. Manure might be purchased, or commercial fertilizer used as a stimulant for the first crop, but this plan was excluded by the terms of Doctor Hopkins' agreement. The situation seemed almost desperate. One thing might be done, and was done; the soil was carefully prepared, and so far as other work permitted, the ground limestone and phosphate, together with the kainit, was applied. Since shallow plowing had been the custom in this country for years, it was reasonable to assume that deeper plowing, especially if done in the fall, although it might not make available hitherto unused plant food elements, would help the soil to hold moisture and give all plants a better root and feeded.

The loamy soil was easily put into fine shape for spring planting and seed-



THE OLD TOBACCO BARN WAS NO MORE RUN DOWN THAN THE SOIL OF THE FARM.

ing. The fertilizer was generously applied, the aim being to put five tons of ground limestone, two tons of ground phosphate rock and one-half ton of kainit upon each acre of ground at a cost of about \$35 per acre, plus the expense of hauling and handling—by no means a large sum when compared with the cost of ordinary commercial fertilizer, and when we remember that this one application of phosphate and kainit is not to be repeated within six years. A four-foot check strap was left at the side of each field, upon which no fertilizer was applied, but which otherwise received the same treatment as the rest of the field.

The response was prompt and plainly marked, especially in the largely increased yield of corn. The growth of legumes and the alfalfa stand was at first very unsatisfactory, probably because of a lack of bacteria, and conditions which prevented successful nitrogen-fixation, but which will be overcome as the bacteria spread and the calcium comes into action. The experiment, however, has sufficiently progressed to leave no room for doubt that Doctor Hopkins in another season will secure a good stand of alfalfa. When he has done that, he will have made his demonstration and proved his case, if, indeed, he has not already done so. How he did it, field for field, and season for season, in the face of difficulties peculiar to the location, is also another story.

Note. The results to date from this

interesting experiment will be given in a second article to be published in an early issue.—The Editors.

THE CRIMINAL CROW.

In these days, when the study of birds in their economic relations has become so nearly an exact science, one is hardly able to classify any bird, off hand, as valuable or obnoxious. Many birds, formerly thought to be pests, have been found to have their points of excellence; while many birds hitherto believed to be harmless have been discovered to be doers of considerable damage to orchard, farm and garden. The truth is, in any rural community there are very few birds of common occurrence which can be said to be either wholly good or bad, in which respect they rather remarkably resemble the human beings among which they find their existence.

Of the birds of the farm which are the most positively beneficial and of the highest economic usefulness, the bobwhite is undoubtedly the most conspicuous; and of those birds which have least in their favor to recommend them to the kindness and protection of men, the American crow is the most sinister figure.

Altho as far as possible removed from

been taken from broken eggs.

The damage done to crops, especially to sprouted corn, by crows is well known. How many a field has been replanted because of their marauding forays! There are those who contend that the crow does no harm in winter. It is true; but in the winter there is little harm to be done.

It is well nigh impossible to do much damage to crows with a gun. A small rifle, with a Maxim "silencer" attachment, has been used to good effect. But the only way to kill them by the wholesale is by poison. The most effective form of this is salted grain. Corn will kill a crow if it has been soaked in brine. One does not care to put real poison out anywhere on the farm; and it is good judgment not to do so. But corn, prepared in the manner described, can be used safely and cheaply.

A certain farmer in southern Pennsylvania became so exasperated over the depredations of crows in his cornfield that he resorted to an eccentric but effective method of ridding the farm of them. Finding an accessible nest in a near-by woodland, he climbed to it, carrying up in a bag a large cat. This he took out of the sack and tied securely beside the nest. Then he climbed down the tree, cocked both barrels of his gun, and waited.

The owners of the nest came, and flew away, protesting wildly. Crows began to gather. They came for miles. The air was dark with them. They circled about the tree, revolving like a huge, inky funnel. They looked like a cyclone cloud. Again and again the farmer shot up into the funnel. The crows were making such a din with their cawing that they could not hear the report of the gun. They were so excited over the cat that they paid no attention to the man. He slaughtered them in great quantities. Then he climbed up and untied the cat. It was not until after sunset that the crows quieted down. The next day there was not a crow to be seen for miles. But the average man will not care to practice such a trick; nor may the cat and the nest be at hand. Corn soaked in brine will do.—Archibald Rutledge, Franklin Co., Pa.

Note.—There is much difference of opinion among farmers as to the proportion of good and bad done by the crow. The U. S. Department of Agriculture, in a recent department document, defended the crow on the ground of its insect and pest-destroying habits. On a practical basis, the question of harm or benefit from crows probably depends upon their numbers in a locality. Where there are more crows than can feed comfortably upon insects available, they undoubtedly become a pest, and must be dealt with in some such way as described above.—The Editors.

PRESERVATION OF BARNYARD MANURE

Professor F. H. King, in his book "Farmers of Forty Centuries," describes the methods used by the Chinese, Koreans, and Japanese in collecting and preserving manure, both solid and liquid, also the systems of composting used. In China the manure is placed in glazed terra-cotta urns, some having a capacity of 1,000 pounds. In Japan cement-lined pits are used, the liquid excrement as well as the solid being carefully preserved. In China the compost piles are carefully plastered with a layer of earth mortar.

The results of the latest scientific investigations do not give us any better method than that practiced by the Chinese for many centuries. When

Farm Counselor Department



R. P. KESTER
Counselor on Soils to the State Department of Agriculture.
Thru this department Mr. Kester will discuss queries from Pennsylvania Farmer readers on soils, field crops and general farm practice. Address all queries to Pennsylvania Farmer, Philadelphia, Pa.

What Farmers Don't Need.

Nearly every paper nowadays has one or more articles on "What the Farmer Needs." So common are these articles that it is time to have some on "What Farmers Don't Need." In the first place, we do not want articles or addresses which leave nothing but discouragement as their effect. In these days of universal spectacles, so many people appear to wear blue glasses, and all the world looks blue to them.

I know an old gentleman who was advised by friends to get a pair of colored glasses to shield his weak eyes. He hitched his horse to a buggy and



TYPICAL BARNYARD SCENE IN PENNSYLVANIA.

The Straw Stack is made each season and remains until it is eaten down.

ground was not frozen and the muddy roads refused to carry sleighs. Deep cuts in the roads were drifted full of snow and it was several days before travel was possible, even on the main highways. After the snow left, the roads were a foot deep with mud, for we Pennsylvanians eschew good brick roads and delve in the mire.

The protracted dry weather in late summer helped wonderfully in hurrying along the farm work. Wheat was put in in good order and looks fine. Corn was late and much of it soft. The November rains delayed husking and much is still unhusked. Clover seed was a scant crop, owing to winter injury in 1912-13. In addition the land is sour, and until lime is applied clover seed will not resist its numerous foes. The same is true of all the legumes here.

The late warm weather renewed the pastures and all animals are enjoying it. The high prices of feed have had a corresponding effect upon farm stock, which is both scarce and high. Dressed hogs sold at 12 cents in October, but are down to 10½ and 11 cents now. Beef, too, is very high.

Apples are about 25 percent of a crop; potatoes, 50 percent. Buckwheat was an average crop, and vegetables a full crop. Bees did well, both in honey and in swarms. Lime and commercial fertilizers are largely used here. Fruit growing is becoming a leading industry here, and general farming is following less with every passing year.—J. C. M. Johnston, Lawrence Co., Pa.

and harmful) that they are dear weights to progress.

There was once an old deacon who always opposed any new move or proposition involving change or expense. The brethren could always count on the opposition of Deacon Jones. At one time it was proposed to re-seat, re-carpet, and otherwise improve the church; in fact, modernize it. The church council met and were a unit in agreement for the change, except Deacon Jones. He arose and opposed it. He said: "I have worked for forty years in this church and have found it good enough. My father worshipped here and was satisfied; now, for forty years, I have"—"Yes," broke in a brother, "in those forty years you have worn out six pairs of hold-back straps and never once touched the collar."

The critic has his place in the work of the world, but his must be a helpful, suggestive criticism; a kind that inspires and unites rather than the kind that brings gloom and despondency. I have known many a beautiful night made hideous by a fool hound-dog's barking at the moon. What we need as farmers is personal efficiency and social co-operation. With these we can revolutionize the business and right every wrong.—R. P. K.

POTATO VARIETIES AND FERTILIZERS.

What variety of Irish potatoes that are as good in quality as the Irish Cobbler will give greater yields than the Cobbler on our Maryland soil? How is the National Queen as an early potato? What is the good formula for potato fertilizer, the right quantity to use per acre, etc.—W. W. A., Longwoods, Md.

So far as we have tested them, there is no other variety any better than Irish Cobbler when everything is taken into consideration. We have not tested the National Queen. The Green Mountain, Manistee, Carman No. 3, and Peerless, are all varieties of good appearance and quality, but will not mature as quickly as Irish Cobbler.

The right kind and quantity of fertilizer depends a good deal upon previous treatment of soil. Usually, seven to eight hundred pounds per acre of a 4-7-5 formula will give good results. Send to the Maryland Agricultural Experiment Station for bulletin No. 172 on "Irish Potato Investigations."—Thos. H. White, Maryland Agricultural College.

POTATO STORAGE

Two distinct types of storage rot may occur on potatoes. The tuber may become infected with a dry rot in which case it gradually shrivels up, becomes powdery and changes to a light brownish color; or a soft rot may occur in which the tuber is rapidly reduced to a soft shiny foul-smelling mass.

The organisms causing these rots, attack the potatoes either through wounds or following the attack of the wilt fungus. Primary infection may occur in the field and spread to healthy potatoes when the latter are placed under improper storage conditions. It is important therefore to reject all tubers showing any signs of rot at digging time, and to provide a dry, well ventilated cellar for storage. A storage cellar that is warm and moist is very favorable for the rapid growth of the rot inducing organisms.

The temperature of the storage cellar should be kept as close to 35 degrees F. as possible. Great care should be taken to avoid bruising the potatoes in digging and handling.—A. G. Tolaas, University Farm, Minn.



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The Dairy

THE MILK SITUATION.

The present milk situation is most peculiar. Last month, the New York market received approximately 1,750,000 cans of plain milk (including both cream, given in its milk equivalent, and milk by itself). This is a daily average of nearly 60,000 cans. It is extremely unlikely that the producers received more than an average price for this milk of above four cents a quart. The production for the month was larger than expected, superinduced almost altogether by the unseasonable weather conditions. There was a slight market surplus in evidence, which is certain to disappear with the advent of cooler weather. Even at that, the producers were entitled to more money for their milk, but just as long as they are satisfied to be content with the present slack, "go-as-you-please" system of determining prices they should be thankful that they are doing as well as they are.

It will be noted that four cents a quart is about the average price which the dairyman receives for his product. At that rate he is selling at a loss. For this statement, I require no better authority than our Uncle Samuel himself. The United States Government, after a series of tests by its experts at experimental stations in New Jersey, gave warning that the milk used in New York City is obtained from the farmers below the actual cost of production. According to the government's figures, milk of good grade cannot be produced on the farms of New Jersey at below approximately four cents a quart. The highest price the farmer gets for his milk is \$1.90 per 100 pounds, or 4-1-11 cents a quart, and that price is paid only in two months of the year, November and December. The calculation of the trade experts is that 46½ quarts of milk weigh 100 pounds. The New York Board of Health figures two pounds to the quart, but that is too much.

The average cost of the milk, counting the actual cost of growing the food, was 2.4 cents a quart. Placing the market value on the home-grown feed, the cost was 3.04 cents a quart. In addition, there was the cost of labor (but not supervision), 1.76 cents a quart; these figures including bedding, stabling, interest on investment, etc., but not interest on land, buildings and dairy equipment. Not allowing for value of calves and refuse, the milk costs the farmer 4.16 cents a quart, based on the market value of his feed, and 4.5 cents based on the actual cost to him of growing the feed. The cost is brought down to about 4 cents by allowing for the refuse or the calves, the government says.

The territory surrounding Staatsburgh, New York, is noted for its fine dairy farms, on which are kept a high grade of sleek, well-fed cattle. Every thing which modern ingenuity is able to devise to keep dairy standards right up to mark, is in use on these farms. George Naylor, Jr., is one of the most up-to-date of these farmers. In September of this year, he traced the milk from his farm, where it netted him 2-1-10 cents a quart, to the Hotel Waldorf Astoria, in New York, where it brought 20 cents a glass, four glasses to the quart. Needless to say that he went home thoroughly disgusted, and his story added fuel to the fire already fanned between the milk producers and the receiving companies.

The remedy seems to lie in the line

of efficient organization. A recent federal statute exempts farmers' organizations from the provisions of the laws relating to corporations, etc. Milk producers should be quick to avail themselves of the advantages thus offered. Would that some man possessing the requisite ability might arise and organize all the dairymen in the metropolitan district in an organization at once so compact and powerful as to command the respect and support of the receiving and distributing companies. Or, better still, let the producers also become their own selling agents by compelling, thru the force and power of their organization, municipal bodies to grant them the exclusive privilege to sell their own product.

That is the only way for the dairymen to place themselves on the same footing with the producers of the other commodities. A profit could then be made from keeping milk cattle, and the consumer would also be enabled to purchase his milk at a lower price. Then, too, sanitary ordinances on the part of boards of health, would be rendered much more effective. What a holler would come from the "much-oppressed" middlemen even at the hint of such a suggestion. They have yet to kick at the price of 2-1-10 cents a quart



AUCHENBRAIN BROWN KATE 4th 27943 A. R. 547. THE NEW CHAMPION AYRSHIRE COW. Official Record, 23022 lbs. milk; 1080 lbs. butter in one year. Owned at Penhurst Farm, Montgomery Co., Pa.

paid to the dairymen of Orange county. In the meantime, the government is trying to convince consumers that it costs more to produce clean, wholesome milk than to produce dirty and dangerous milk. As the production of the latter has been practically legislated out of existence, let us hope that the millennium of higher prices for the former is about to dawn.

As to this legislation, with its accompanying good and evils, much has been written, more said, but less really done. This city is trying to do one thing: that city is thinking of doing something else, while the state demands still other standards. Is it any wonder that dairymen are beginning to wonder where they are at? Perhaps the solution of the problem is high at hand. Some time, growing recognition of the fact that microscopic, yet none the less lively, bacteria, invisible dirt and disease germs in milk have a marked effect on the public health may result in the adoption of standard laws and regulations all over the country. Scientists and health officials everywhere are working toward that end, with success here and failure there. Now we are informed that the International Milk Dealers' Association has endorsed the report of the commission on milk standards of the New York milk committee, as a general guide in so far as local conditions may warrant, and this is looked on as a long step in advance.

Now then, after all is said and done,

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can any one see where the farmer appears? The International Milk Dealers' Association is an organization representing fifty-five of the largest companies in this country and Canada. At the recent meeting of its representatives in Chicago, the report of the New York milk committee was endorsed. The latter is a voluntary organization whose primary object is to improve the milk supply in New York City. This committee has appointed a commission on milk standards, consisting of seventeen authorities in various parts of the country, and it is its desire that the recommendations of this commission for use in New York be adopted by other cities. Wherever this has been done, good results have followed.

New York City offers a most conspicuous example of a municipality undertaking practically the entire supervision of its own milk supply all the way from the cow to the consumer. No other city has developed such an extensive system of inspection of dairies and creameries as is practiced by the metropolis, notwithstanding that nearly all the 45,000 farms on which the milk supply is produced are located outside the city limits, and more than 6,000 outside the state. In fact, six states, New York, New Jersey, Pennsylvania,

to the city.

Following the recommendation of Dr. Ernest J. Lederle, commissioner of health, the city authorities adopted last year the scheme to grade and label all milk brought into the city and sold there. Under this system the public will be enabled to purchase the quality of milk they can afford to pay for. This is particularly important in the case of milk for infants. It is contended that milk sold from cans is unfit for infants. Special requirements for the production of raw milk for use by adults and the recommendation that pasteurized milk of the same grade is a safer milk will encourage the extension of pasteurization.—D. T. Hendrickson, Moonmouth Co., N. J.

(Concluded next week.)

BUILDING UP A HERD.

Meeting an old friend, and very successful dairyman, recently, conversation naturally drifted to his work and remarkable success. Starting with a single cow, more than twenty years ago, he has built a herd hardly to be excelled in New England for cream production.

Early in the fifties, Dr. Ezekiel Hobens, founder and then editor of the Maine Farmer, imported a bull and cow from the Island of Jersey, known as Butter Boy and Butter Girl. I remember as a young man driving one day to see that cow, a remarkable producer, large, roomy, hearty, and carrying marked evidence of ability to do. Because of a missing link in the pedigree, these animals were barred from registration and so became the founders of what has since become a remarkable family of Jerseys—the Maine State. Larger in size than the Cattle Club Jerseys, they have also been more rugged in construction, due probably to environment in this colder climate; but all the generations they have been noted for superior milking qualities. Of necessity, Cattle Club bulls have been relied on to a great extent, and the best blood of the Island flows in the veins of this family of Jerseys. It was one of these cows, superior to her companions, which became the head of this long string of heavy producers. In the years Cattle Club Jerseys and registered Guernseys have been tested alongside the Maine State, but never to supersede the original strains of blood.

The best part of the story of all these years is that each succeeding year has recorded an increased production of milk and butter fat, a most remarkable fact. It was about this I wanted to ask for the benefit of the readers of the Pennsylvania Farmer. The explanation given by this intelligent dairyman seems simple, yet he who attempts to put it into operation will find room for the application of all the gray matter in his brain.

"Our results have been obtained," said my old friend, "by carefully studying every cow and trying to make the best environment possible for each, old and young." Here is the whole story in a single sentence, yet who thinks of environment for a cow. Kindness, comfort, firmness, gentleness, are the chief requirements in this tie-up. With these, there goes another most important study, that of the tastes and desires of each animal. Palatability increases consumption. What a cow likes, she will eat most of, and, better still, get most from. If you increase consumption of palatable food you must, other conditions being favorable, increase production. Here is where it pays to observe little things.

My friend says he "hardly feeds two cows alike, or the same ration twice," which means that he is all the time

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studying rations to fit cows, not as a herd, but as individuals. When we reach above 250 pounds butter fat, the minimum cost of production, our pocket-books are sensitive to the possible increase, and whatever will add to the cream measurement becomes at once a valuable asset.

There is a science in dairying found in promoting the health of a cow and her mental and physical comfort. When we hunt for this it leads at once to a recognition of little but fundamental facts. If we want profitable animals they must be bred on the farm, by the wisest selection of sire and dam. Only one purpose can dominate, to intensify production. Here is where one must recognize the power of the objective over the subjective, the man over the animal. The first six months of a heifer's life practically determines her serviceability later.

The tendency to fixedness of habit is physical, both in man or beast. If we want a good dairy cow it will not do to grow a beefy calf. The largest possible development of dairy form and tendencies must be paramount with the owner if profitable and persistent production is to follow later. If each succeeding generation is to be better than the former, the standard must be that of utility. To reach this the machine needs to be as nearly frictionless as possible. This applies to physical structure, and with this there goes the necessity for fixing mental purposes and sympathies in harmony with largest production.

There is nothing fanciful here. It is simply good common sense, the application of good business principles to the cow. In observing these things, we fix the environment most in harmony with largest production. In this way we build generation after generation upon sure foundations. In this way the man and the cow come into closest fellowship and each helps the other. In this way profitable dairying becomes a certainty.

My friend has three sons, each of whom has graduated with high honors at one of our best colleges. Valuable openings have been tendered them outside, but they have gone back to the farm, realizing there, not only the possible returns for honest labor, but that there was the best opportunity for them to study, think and grow. We want more such object lessons, that more boys may find their chance for largest development as well as sure returns, on the home farm, or out upon the land. It's there, in the tie-up as in the orchard, the cornfield or the sheep-pen, wherever a man honestly and earnestly seeks to co-operate with nature and intelligently labors to force her to yield her secrets and give of her abundance. There is where one will find opportunity for the making of a man four square to the world.—Dr. G. M. Twitchell, Androscoggin Co., Me.

THE DAIRYMAN'S LEAGUE.

The special meeting of stockholders of the Dairymen's League, held in Albany, was attended by about 125 from five different states. Secretary Manning reported nearly 300 local branches in 42 counties in the states of New York, New Jersey, Pennsylvania, Massachusetts and Connecticut. The total number of stockholders was at that time 9,400, representing 150,847 cows on which the stock had been paid in full; a gain for the year of over \$2,000. There was also reported a total of 62,825 cows on which stock had not been paid in full. After a discussion of the exact meaning of the terms of the agreement, it was voted to recommend to the directors that they say to any

of the farmers that if they lose any money by withholding their milk thru any act of the league, that as soon as the league is able to reimburse them it will do so after the claim is verified by the local league. The motion was adopted by a close vote, it being thought that it would give confidence to any wavering member. The following were recommended for directors to be elected at the annual meeting: John Y. Gerow, Orange; H. W. Culver, Dutchess; Oscar Bailey, Putnam; F. H. Thomson, Oneida; John S. Petters, Washington; B. F. Livingston, Chemung; F. D. Kershaw, Onondaga; Edward Leach, Chenango; F. E. Alexander, Oswego; D. H. Clements, Sullivan; J. L. Hartnett, Cortland; Harry Bull, Orange; Dr. C. D. Huxtable, Herkimer; Chas. C. Gordon, Lewis; J. E. Hasbrouck, Jr., Ulster; J. D. Beardslee, Otsego; E. H. Dollar, St. Lawrence; Frank Sherman, Columbia; D. H. Sliter, Delaware; Ira Sharp, Lewis, all of New York; Louis M. Hardin, Sussex, N. J.; Clifford E. Hough, Washington, Conn.; and Alfred E. Sheard, Wayne, Pa.

THE HERD BULL.

Whether breeding purebred cattle or working with an ordinary herd of grades you cannot afford to neglect the breeding bull. If we secure uniform results in breeding, he must be fed and handled in a way that will maintain a healthy, vigorous condition, and not overload him with an excess of fat. Feed him regularly with good, substantial foods. A breeding bull will require about the same kind of feeding materials as a cow giving milk, and in about the same proportions, although it is my judgment that too much corn ensilage is not desirable in his rations, especially during the breeding season. Fed and watered at the same time as the cows, and given shelter and protection from the heat, cold and flies, and given plenty of exercise, it is easy to keep the bull in good condition and insure his breeding utility for eight or ten years.

One of the most difficult problems a dairyman has to deal with is the fact that so many of his cows fail to get with calf at the desired time. This is due many times to the diseased condition of the cows. On the average dairy farm every shy-breeding cow is usually bred every time she comes in heat, regardless of her diseased condition. In this way disease is being transmitted from one cow to another. All those interested in maintaining the health and breeding qualities of their cattle must learn not to have diseased cows, or those that have recently aborted, served by their bulls. There is no longer any doubt that infection from diseased cows can be conveyed to healthy cows thru the herd bull.—W. Milton Kelly, Erie Co., N. Y.

DAIRY CATTLE.



The Jersey

The Jersey gives richer milk and more butter than any other known breed, at a lower keeping cost. She does it continuously and persistently. Her milk and butter bring better prices than the product of any other dairy breed. That's where quality does count. Jersey facts free. Write now. We have no cows for sale.

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Berwyn, Pa.



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Larro-feed

contains absolutely nothing that you wouldn't want to put into a ration if you mixed it at home. It contains Dried Beet Pulp, cottonseed meal, gluten feed, distillers' grains, wheat bran, wheat middlings and a little salt—that's all. Every carload of ingredients and every batch of feed is analyzed, so that LARRO-FEED is always uniform. That's why we can dare to make this famous Larrow Guarantee: "Feed 200 lbs. to any one cow—if results don't convince you that it's the best feed you've ever used, we agree to refund every cent of your money." Read that Guarantee again—and then ask your feed dealer for a trial lot of this wonderful feed. Ask also about LARRO-MASH—for laying hens, and those that should lay but won't.

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A-7

Bargain in Holsteins.
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30 cows, 20 1 and 2-yr. olds, some of them bred; 10 bulls, ready for service; all registered, 40 high grade 2 and 3 yr. old heifers bred to reg. bull; 20 extra fine high grade cows. High grade heifer calves \$15 each; also reg. heifer and bull calves at farmer's prices.
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Philadelphia, Pa.

Holstein Friesian Cattle. Royal breeding. Get A. R. O. bull calves. Write HOME FARM, Center Valley, Pa.

Guernseys—Get a bull which will stamp his merit on your herd. Fred W. Ward, Sylvania, Pa.

Jerseys—Blood of Sultana's Oxford Lad, Golden Fern's Lad, Emment's, Calves, both bred by W. Bank, Allentown, Pa.

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has reinforced knive, eccentric gears, arched handles and other superior features. The new **Keystone Improved Dehorner** is the latest and most efficient dehorning device on the market. Four cutting edges, making clean, shear cut. No tearing or grinding. Stock safer without horns. Why not use the best device when dehorning? Money back if not satisfied. Write today for booklet.

M. T. Phillips, Box 127, Pomeroy, Pa.

Cotton Seed Meal (Get Farmer Brand. Highest grade. Manufactured. Ask price. Free booklet. Hartlett Co., Jackson, Mich.

Poultry

FEEDING FOR WINTER EGGS.

Egg production is influenced by several factors, among which may be mentioned the hen, the method of housing, the feed, and the general care. All are related in some way to each other, but the relationship between the hen and the feed seems to be the most important; hence it is essential that we study the hen and note what constitutes a good egg producer.

It is quite necessary that the hen should be healthy. Activity in scratching and foraging is an indication of health. The weak fowl will seldom be found scratching and foraging far from the poultry plant. The strong fowl, in most cases, will be found to have a broad head with short, well-curved beak. The eye is bright and full and the wattles and comb bright red in color. It should be fully developed and brilliantly colored.

The shape of the body is an important characteristic. A good laying hen should have a deep broad body, indicating abundant space for a large digestive and reproductive system. Unless a hen is able to consume and digest a large amount of feed she cannot produce a steady yield of eggs. The legs should be strong and spread well apart.

Feeding the laying hen for the highest egg production involves a ration which will keep the hen's body in a good physical condition, but no set and fast rule can as yet be laid down, as the individuality of each hen is very different. However, there is a close relationship between the food eaten by the hen and the egg laid.

In most of the different grains used in poultry feeding five elements are found; namely, water, ash, protein, carbohydrates, and fat, these elements varying in quantity in the different feeds used.

The body of the fowl, and the egg contain these elements, altho in different forms, which may be seen by comparing the composition of grains and other feeds which are the raw materials, with the body of the hen and the egg, which are the finished products.

	Water	Ash	Crude Protein	Carbohydrates Fiber	N. free extract	Fat	Nutritive ratio
Corn (Dent)	10.6	1.5	10.3	2.2	70.4	5.0	1:10.3
Wheat	10.5	1.0	11.9	1.8	71.9	2.1	1: 6.5
Oats	10.4	3.2	11.4	10.8	59.4	4.8	1: 5.9
Corn Meal	15.0	1.4	9.2	1.9	68.7	3.8	1:11.0
Wheat bran	11.9	5.8	15.4	9.0	53.9	4.0	1: 4.9
Meat Scrap	10.7	4.1	71.2		0.3	13.7	1: 0.1
Hen (Entire fowl)	55.8	3.8	21.6			17.0	1: 1.7
Fresh egg	65.7	12.2	11.4			8.9	1: 1.8

The ash (mineral matter) in feeds is used to make bone and egg shell in the body of the fowl; the protein compounds in the food are broken down by the fluid in the digestive organs of the fowl and changed to simpler compounds. They then become digestible and are used in making lean meat or egg albumen and energy. The carbohydrates are changed into glucose—like sugars, and are stored in the tissues of the body or used up in work. The fat is changed into glycerine and fatty acids. This is absorbed and used as heat and to help in making the yolk of the egg. Since the hen uses these elements in a certain proportion in her body, it is evident that to avoid waste they should be fed in nearly the same proportion. It is impossible for a hen to do her best in laying eggs if she is fed a ration rich in carbohydrates and fat but containing little protein. She has plenty of material for the yolk of

the egg, but lacks the material to make the albumen.

As protein is the expensive and very small part of the grain, it is economy to feed only as much as is necessary to form the lean meat and produce the egg albumen.

A knowledge of the composition of feeds is necessary in order to make a ration containing these elements in the proper proportion. Not all the protein and carbohydrates in grains are digestible, so that in computing a ration, only the digestible nutrients should be considered. If one has not a book or bulletin which will give the digestibility of food stuffs, he can secure this information by writing to any of the Experiment Stations.

There are several requirements of a good poultry ration other than the chemical proposition, which may be summed up as follows: First—It should be composed of foods every one of which the fowls like. Second—It should contain a sufficient quantity of digestible nutrients. Third—It should



A GOOD SPECIMEN OF THE EGG-PRODUCING TYPE.

have enough bulk to enable the digestive secretions to act quickly upon it. Fourth—It should not contain an excess of digestible fiber. Fifth—A certain proportion should be of whole grain and ground feed. Sixth—It should provide a variety of foods which should have no injurious effects upon the flavor of the egg. Seventh—The ration must be adapted to the purpose for which it is fed; that is, fattening

or egg production. Eighth—The ration should be balanced so as to contain the food nutrients in the proportion in which they are needed. Ninth—The ration must be cheap. It will require a little care and thought to prepare a ration that meets with all the above requirements, but it is not a difficult task.

A good ration properly fed and giving the hen good care will pay in the end, and farmers will receive better results from their hens if a little time and earnest thought is given to their care and management.—D. E. Warner, State College, Pa.

WINTER HOUSING AND VENTILATION.

Good winter housing means: (1) That the poultry house should be absolutely free from draughts; (2) admit plenty of sunshine and fresh air; (3) be reasonably dry at all times, including interior and litter; (4) constructed so as to be reasonably warm and to maintain as uniform a temperature as possible. The more uniform the temperature in a house, the better the fowls will do. Guard against having it warm during the day and cold during the night. So many of these glass-front poultry houses provide just such conditions, and, for best results, just the opposite should be the case. During the daytime the fowls can keep warm by scratching and exercising, but at night, if it is cold, they can do nothing better than huddle together and freeze. Remember, that in order to have fowls do well in winter your one great aim must be to keep them comfortable. If you succeed in doing this you have solved the problem of winter housing.

One way of housing poultry properly is to build a common shed, on a dry location, on the south side of some of your larger farm buildings. Do not build it as a lean-to, but as a separate building. Have it just high enough so that one can do the work in it comfortably. Build it to have the three ends, north, west and east, absolutely airtight, so that there will be no chance for any draughts. The best way to do this is to cover the frame with a good grade of matched lumber, and this in turn with a good grade of one-ply roofing paper. Exercise great care in putting it on in order to get it well over all joints, especially where the fowls roost. Where the fowls are to roost, seal it on the inside, far enough down the back and up the roof to get extra protection for them at night and help confine the animal heat. This inside ceiling is left open on each end, on the side just below the dropping board and up the roof far enough to get it away from the heads of the birds. This gives a live air-space in the roosting closet, which we find aids in keeping the roosting room dry. The roosting closet should be absolutely dry.

The front part of the house is not the most important part, as so many appear to think. Unless the other three ends are properly constructed the front portion is useless. These ends must be so constructed that they can be made absolutely airtight during winter. Have the sides and front high enough to prevent knocking your head while working inside. A combination front is the best type, in our opinion. In the construction of the combination front, wood, glass and muslin are employed. The glass is placed about two feet above the floor; the cloth curtain, rather rectangular in shape, and narrow, about a foot from the top of the front end. We use about one square foot of glass to twelve square feet of floor space, and about one square foot of cloth curtain to eighteen square feet of floor space in cold climates. In warmer climates use the same amount of glass but increase the cloth curtain to the proportion of one square foot of cloth curtain to twelve square feet of floor space. This will materially increase the ventilation in the house, which is needed in the warmer climate. The remainder of the front is boarded up.

It is advisable to have a small ventilating door in the rear of the house near the roof for additional ventilation in summer, but in winter this should be closed tight.

In ventilating our house in the winter time we use the muslin curtains chiefly, excepting on rather warm days, when we open the doors and windows for a few hours to air the house thoroughly. As stated before, however, most of the ventilating is done with the curtains, which are operated with the sun. We open them with the sunrise in the morn-

ing and close them with sunset in the evening. In case of a strong wind from the south, accompanied by rain or snow, keep curtains closed during the day, to keep the litter dry. If your hen house is damp, increase the ventilation, as paying hens and dampness never go together.—F. W. Kazmeier, Cornell University.

NEW JERSEY POULTRY NEWS.

At the meeting of the New Jersey branch of the American Poultry Association at New Brunswick, Dr. Lipman announced the value of the farm crops in this state as more than \$65,000,000 annually. Ten years ago it was less than \$25,000,000. At the present rate of increase it seems likely that it will pass the \$100,000,000 mark in the next ten years. The poultry industry, which is included in the figures given, is one of the greatest industries of the state. There are in New Jersey, twenty-six poultry associations, the majority of them county organizations. The active membership of these is about 2,500. The suggestion is made by the experiment station that the various associations form a state federation. It is suggested that such a federation could safeguard shippers and producers who sell thru commission houses, etc., by affording them an opportunity to place their claims and grievances in the hands of the federation, and by using its influence to secure prompt and just settlement. The federation would also investigate the merits of the various poultry supplies and equipment, thereby saving members much loss incident to trying out a number of different articles to ascertain those best to use. The farmers are beginning to realize that the poultry industry is one that should be given more attention than it has received in the past. Its interests extend beyond the strictly poultry industry, embracing all other branches of agriculture. Poultrymen have taken old farms that were practically of no value and made them more than ordinarily productive. Ocean county now has the greatest poultry plant in this country in Laurelton Farms. This property consists of more than 200 acres, and the capacity thereof is 100,000 chickens. The turkey crop this fall is about fifty percent of normal. Dealers were compelled to pay from 25 to 27 cents per pound alive, and 32 cents dressed—an average increase per pound over last year of two cents. This high price of turkeys has forced families to buy chickens and has promoted chicken raising. The result has been that there are more chickens in the market this year than last. The retail price dressed is 18 cents a pound.—D. T. Hendrickson.

Value of Poultry Manure.—Poultry manure is one of the most valuable by-products of the farm, yet many farmers give it little or no attention. The dropping boards in the poultry houses should be cleaned at least twice a week, and the manure thoroly mixed with either land plaster or sifted coal ashes; then store it in barrels in a perfectly dry place. By so doing, the moisture is retained and the ammonia cannot leach out. Manure kept in this way will analyze nitrogen, 13.4 percent; equivalent to ammonia, 16.3 percent; equivalent to calcium phosphate, 6.7 percent. It is thus evident that hen manure contains a high proportion of nitrogenous matter, but a smaller quantity of phosphates than guano, which analyzes 20 percent phosphate and 6 to 8 percent ammonia. I have known it to be used in making a complete fertilizer for corn, that grew almost fabulous crops.—D. T. Hendrickson.

Live Stock

THE INTERNATIONAL LIVE STOCK EXPOSITION.

The International Live Stock Exposition closed at Chicago December 6, after the most successful and in all ways the greatest show in the twelve years of its existence. Few realize the immensity of the exposition. The plant alone in which it is housed represents a capital of a million dollars and encloses acres rather than square yards. The value of a single class of Percherons in which there were 150 entries was estimated to be \$100,000, while the value of the Percherons at the exposition has been placed at \$750,000. The total value of the 1,200 horses at the show ran far above the million dollar mark. When to this is added the value of some 1,300 individual pedigreed cattle, 1,200 breeding and fat hogs, and 800 breeding and fat sheep, the value of the individual animals ran well up above \$2,000,000 without counting the hundreds of fat cattle, sheep and swine entered in the car-lot divisions.

The Horses.

The horse show has never been bigger or better in the history of the great event. Two features deserve special comment: the number of mares shown and the greatly increased number of colts and foals. One proves many American breeders to have reached the point where further improvement depends upon better female stock, while the other shows that America can produce really high-class horses.

In popularity the Percheron leads all other breeds by a comfortable margin. Over half the horses in the show were of this breed. Some 150 animals were shown in the two and under three-year-old class, while just half as many appeared before the judges in the three-year-old class. The futurity classes were especially well filled, there being some 40 entries in the stallion foal class alone. American-bred animals were in evidence.

The Belgians were represented by some 235 entries. Competition was keen, tho a number of rather mediocre animals appeared in some classes. As yet, there seems to be considerable variation in the type of animals shown, there being all kinds between the plain low-down Dutchman's horse and the type bordering on the Percheron. Canadian entries were numerous in Clydesdale classes and they helped much to make the show of this breed a record-breaker.

Shires were there to the number of 200. There are sections of the country where this breed is justly popular, and these were well represented. Two Illinois breeders showed 20 head of Suffolk-Punch, an English breed that is gaining a foothold in a few localities.

The Cattle.

Not counting car-lot classes, of which there was the greatest showing in the history of the yards, cattle entries numbered over 1,300 head. Surely, the International is doing its full share in stimulating beef production to the utmost. It is doubtful if a better aggregation of the reds, whites and roans has ever been brought together. Over 400 animals were listed in the catalog. Ringmaster won in the class.

The Whitefaces were there with 257 entries. Young stuff was especially in evidence. The Junior bull calf class presented a most formidable array for the judges. The Daddies ranked third in number of entries. Thirteen aged bulls stood up before the judge. Competition was hot in all classes. As with the Herefords, young stuff was in evi-

dence. It was a great Angus show. Ring followers state that the Galloway has shown greater improvement since the beginning of the International than any other breed. Some 93 entries were shown.

The Red Polled is attracting renewed interest. Talk about special type all you will, there are thousands who believe in the dual-purpose animal. Visitors in this section of the show were especially numerous and they were not of the type that take a glance and pass on, but they inspected entries closely and questioned exhibitors and attendants most carefully.

An exhibit of Romneys attracted considerable attention among the sheepmen. They are a big hardy breed and much is expected of them. Southdowns were in evidence in the fat classes. The importation of several Hampshire wethers was the occasion for many comments. Breeding classes were especially strong. In describing the general quality of entries, a breeder's remark is sufficient. "We can't bring poor stuff to the International; we'd go broke at it." Shropshires led in the breeding classes with seven exhibitors of 123 animals. Two mighty good Hampshire flocks were shown. Oxford entries were light, but the quality was excellent. Southdowns showed in larger numbers and with more quality than ever. Long wool classes were well filled. Cotswolds were especially strong with five great flocks. Four shepherds represented the Lincolns. The Dorset showed up with three exhibitors. In the mutton classes, the grades and cross-breeds appeared in great number with mighty keen competition.

The Swine.

Despite the ravages of cholera, the hog classes were stronger than ever. It is noteworthy that the Hampshire, a comparatively new breed, led off in entries as well as in number of exhibitors in the breeding classes. He is a good grower, a good rustler and is backed by a number of breeders who will see him at the head of the breed. Formerly, the Duroc has been the leader, but this year he fell back to second place with some 40 less entries than the Thinrinds. A more type, better bred, and better finished lot of Berkshire barrows was never shown. In the breeding classes, this smooth, well-finished hog stood third, leading the Poland-China and Chester by a healthy margin. The once well-liked Poland-China is stepping back as far as popularity is concerned. The bacon type is growing more popular, and justly so, but one notes two almost distinct types within the breed. One is the extreme bacon type, while the other leans more towards the lard hog. This year, Tamworth entries were almost equal to those of the Yorkshires.

Students' Judging Contest.

With 13 teams competing, the Texas Agricultural College won the contest by 159 points, their total score being 3,654. Missouri was second with 3,495 points; Purdue third with 3,494; Ohio fourth with 3,470, and Iowa fifth with 3,460, followed by Ontario, Manitoba, MacDonald, Kansas, Oklahoma, Pennsylvania and Nebraska in turn. Each team was made up of five men. Each placed three rugs each of horses, sheep, cattle and hogs, giving reasons for the placements.

Fat Stock Championships.—Cattle. Grand champion of show and champion cross-bred and grade.—Glenbrook Victor 2d, J. C. McGregor, Brandon, Manitoba. Shorthorn.—Hallwood, J. H. Prather, Williamsville, Ill. Angus.—Shamrock Still, Purdue University. Hereford.—Refiner, Jas. Price, LaCross, Wis.

Red Polled.—Russel, W. S. Hill, Alexander, S. D.

Galloway.—Donald, University of Nebraska.

Sheep.

Shropshire.—J. & D. J. Campbell, Woodville, Ont.

Hampshire.—R. J. Stone, Stonington, Ill.

Southdown.—University of Wisconsin.

Lincoln.—H. M. Lee, Highgate, Ont.

Cotswold.—J. D. Brien, Ridgeway, Ont.

Dorset.—W. H. Miner, Chazy, N. Y.

Oxford.—R. J. Stone.

Cheviot.—G. W. Parnell, Wingate, Ont.

Swine.

Berkshire.—Iowana Farm, Davenport, Ia.

Poland-China.—Francis & Sons, New Lenox, Ill.

Duroc-Jersey.—Thos. Johnson, Columbus, Ohio.

Chester Whites.—F. E. Bone, Ava, Ill.

Hampshire.—R. L. Bollman, Iowa.

Grand Champion Barrow.—Francis & Sons.

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O. I. C.'s at Hillcrest. Pairs not akitt. Registered in buyer's name. Frank Murdoch, Harborside, Penna.

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DUROC Jersey Sprawl Boars, Sows bred or open. Choice lot Fall pigs. Large, mellow, heavy boned. Nodded, no skin. Prices reasonable. L. C. McLaughlin, R. 8, Pleasantville, O.

Hampshire Pigs, Hampshire Rams, Dutch Belted and White Belt Farms, Plainville, N. Y.

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Registered Chester White Pigs and Jersey Bull Calves. FOR SALE, J. A. BOAK, R. D. 4, New Castle, Pa.

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We are selling our entire herd of Registered Southdowns, including imported ram, Haker, "35," who is sire to the young rams and ewes. All our stock is registered and guaranteed. This is a fine chance to get some good stock at a very reasonable rate. Young bucks \$25.00 each. Young ewes \$15.00. Mature ewes \$25.00. Write for particulars and special price on bunch.

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Philadelphia, Pa., December 13, 1913.

HOW TO GET BETTER ROADS.

In the recent road bond amendment campaign, frequent reference was made to the financial advantages to accrue to the farmers of the state from good roads. The campaigners neglected to add that such benefits could come to only about 20 percent of the farmers at the expense of the total population. But that is a closed story. Every farmer appreciates the numerous advantages that will come to him from good local roads, and when local roads are under discussion he is, or should be, the most ardent of ardent road enthusiasts. It was because we opposed extravagant expenditures on a few miles of boulevards and the neglect of the business roads that we opposed the road bond amendment. It is because we believe that business roads can be improved and brought to a high state of perfection that we are going to devote a separate department to the discussion of country road improvement during the winter months. Next week we will give the first installment of a series of articles on "How to Get Better Roads Where You Live." Watch for it, and if you are genuinely interested in the road question, get behind a similar movement in your community.

To those who follow the official reports of the National Grange sessions it is evident that news of effectual agricultural leadership is kept within the membership of the order, or else that there is precious little constructive work done. The session recently closed seems to have been a typical one. There were the usual recommendations and resolutions on general questions, reports of grange representation before legislative bodies and outlines of general policy on questions of general welfare, all drawn and reported with an air of painful deliberation. So far as the public is able to judge from these reports, the National Grange is merely a resolving body with none too much force back of its resolutions. Perhaps this is all that can be expected, but there are many ambitious and loyal grangers who would be glad to see more verity in the work of their national body. The grange is the recognized leader in agricultural organizations. Its principles

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and purposes are sound, and it has the organization machinery necessary to make it a strong, national factor in the regulation of agricultural affairs. But just at this time, when there is a general, nation-wide readjustment of the relationship between agriculture and other interests, the National Grange does not appear to be showing the constructive strength which its supporters have a right to expect. In modern parlance, it gives evidence of "lacking the punch." In several states the grange is the actual champion of the farmer in every field where organization is essential. The Pennsylvania State Grange is a leader. It is getting real results from the force of its combined membership, wisely applied thru efficient leadership. It has real purposes in view and its entire membership is active in the accomplishment of those purposes. It is a safe prophecy that its four-day session this week will show more snap and organization enthusiasm and a richer harvest of work done than resulted from the two weeks of deliberative resolving in the national body. The National Grange should evidence the combined strength of its several state organizations, but it is not doing so. Unofficial reports indicate more or less internal dissension in the national body, and the need of cleaning house. If this is true, it is time the necessary cleaning was done, and the organization put in order for active work. There was never a time when a strong representative national farmers' organization could be of greater service than right now. Economic conditions demand a readjustment of relations between city and country, between the farmers and commercial, transportation and financial interests. Some sort of readjustment will be made in the next few years. If the farmers are to get their just share of the benefits, they must be strongly represented before official bodies having the work in charge. This is work for the grange. The national body should not be permitted to neglect or dodge its opportunity. If it will not lead in the movement, the various state organizations which are alive to their duties should force the issue.

The free wool provision of Free Wool effect on December 1. On Monday and Tuesday of last week, the first two days of free wool, approximately 6,500,000 pounds of foreign wool that had been entered at the port of Philadelphia were withdrawn. This was held to indicate that manufacturers were carrying little stock; that is, had bought sparingly of domestic stock, and were waiting until December 1 to replenish with free foreign wools. The duty on the two days' withdrawals that would have been collected under the old rates would have been slightly in excess of \$600,000. This should mean, according to the theoretical interpretation of the operation of the tariff, that consumers of American-made woollens should profit by reduced cost of woollens to the approximate amount of \$600,000 on the wool that was withdrawn in this one city during the days named, or that American wool growers have been deprived of a margin in selling price about equal to the \$600,000. Whether either or neither of these views is correct, and to what extent, ought to be pretty definitely determined in the next few years. We are willing, for the present, to reserve comment, and "take the new rates on faith" until effects have been determined. We wish to present the following extracts from a public statement of a leading American wool manufacturer, however, for the consideration of our readers while they are waiting for a demonstration of the

practical results. This manufacturer was one of several who participated in the heavy purchases of foreign wool on December 1 and 2. He went into a rather lengthy discussion of the effect of the tariff changes, but a few extracts will suffice to give the basis of his attitude. Touching the effect upon prices of domestic wool, he said: "The wool market has been on a free basis for the last few weeks, because the wool growers in this country adjusted prices to meet foreign competition by anticipating the removal of the tariff." His opinion on the effect on woolen goods is as follows: "While tremendous reductions have been made on the raw material, the price of goods will not be cheapened, because the manufacturers have not taken advantage of the high duties. Domestic competition has kept prices down to a minimum." As to effect upon labor he says: "Large quantities of woolen goods can be imported under the present low tariff duty cheaper than we can make them. In order to run our mills we may have to reduce wages considerably." Summing up, there is reduced wages to the laborer, reduced prices to the producer of raw wool, and little or no return to the consumer in this man's conception of the changed conditions. Whether his views prove prophetic, or merely the reflection of a professional hope, remains to be seen. Let us watch and we shall see what we shall see.

Parcel Post Changes.

The rapid extension of the parcel post service is more than fulfilling the claims and hopes of its most ardent advocates. A year ago there were many prophecies of the direful results to follow the undertaking of such a service; and many who believed firmly in the principle of parcel post regarded the specific law as a doubtful experiment. Yet, so successful has it been that the third and greatest extension has just been announced, to go into effect on January 1 of the new year—just one year from the date the service was first put into force. The new ruling, which has been approved by the Interstate Commerce Commission, increases the maximum weight limits in the first and second zones from 20 to 50 pounds. It also makes a substantial reduction in rates beyond the second zone and will extend the classification of articles to admit books to the parcel post after March 16, 1914. The records of the service to date show that the bulk of the business is transacted in the first two zones. In the first year of its use the maximum weight limit in these two zones has been raised from 11 to 50 pounds, and rates have been greatly decreased. Last January, Congressman David J. Lewis, the "Father of Parcel Post," told an incredulous audience at Harrisburg that in five years parcel post will have taken over practically all of the express business. The service was then new and practically untried and there were many who scoffed at this optimistic prophecy. In view of the rapid development during the present year, a complete fulfillment of the Congressman's prediction is by no means an impossibility.

City Interest.

During the past week there was an important agricultural conference held in the city of Philadelphia. A three-day session, under the joint auspices of a national bank and an organization whose purpose is definitely indicated in its name, the Pennsylvania Rural Progress Association, discussed a wide range of subjects touching upon agricultural progress and welfare. Speakers representing bankers, economists, educators, trade associations,

STATE CAPITAL NEWS

State Seed Inspection.—On January 1 state seed inspection will become operative in Pennsylvania and for the first time the farmers and gardeners will have a measure of supervision over the seeds they buy. State control of seeds has been sought for years because of spread of weed pests. Secretary Critchfield has assigned Dr. James W. Kellogg, chief chemist of the department, to have charge of the seed inspection. Dr. Kellogg will direct the inspectors and samplers who will purchase throughout the state and samples will then be turned over to the laboratory force for examination. The pure seed law establishes certain standards and prohibits more than 1 in 3,000 of Canada thistle and dodder.

Practical Statistical Work.—Steps to secure reliable statistics regarding state crops are about completed. Data has been secured from official sources thru arrangements with county commissioners and assessors and now the crop reports are to be worked up thru the aid of accredited representatives. Figures over the average prices of farm products, livestock and land and wages for 1913. Prices, yield, per acre and county yield are asked for cereals and other

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products, attention being given to wool and honey along with other things. Remarks and suggestions are also invited by the statistician.

Orchard Demonstrations to End.—The state orchard demonstrations will close in the week of December 22. The demonstrations have been held in every county in the state this fall, some having as high as four. The inspectors report marked interest in orchard work and in many portions of the state thousands of trees are reported as having been pruned or grafted in addition to being systematically sprayed. The increase in tree planting will be made the subject of a report. The inspectors also report increase in the parasites that destroy scale, and have given many specimens to owners to propagate.

Endorses Federal Law.—Dairy and Food Commissioner James Foust has endorsed the proposed federal regulation of interstate shipments of cold storage foods and has declared that what is needed is a law prohibiting shipment of any stored products from one state into another except for immediate sale, and prohibiting the re-storage of products. (On the period of storing, he says the law should be made reasonable.)

Township Supervisors.—Township supervisors are showing considerable zeal in reporting the organization of their boards under the act of 1913, and are asking what the state proposes to do under the township road supervision law passed in 1913. The supervisors are to be given plans, specifications, advice and blanks for their work so that practical state assistance can be available, and the department is now looking to for help. The details are being worked out by Joseph W. Hunter, former commissioner, and now the first deputy. Owing to the appropriation situation it remains to be seen what can be done. Opinion is that the \$250,000 allowed will not go far.

State Board Called.—The State Board of Agriculture has been called for its annual meeting at the Capitol on January 28 and 29. It is expected that considerable attention will be given to agricultural credits, soil study, hunters' license and other live matters. There is a commendable disposition shown to get away from the old stereotyped program and to furnish means for wide discussion.

Fertilizer Licenses.—The state supervision of fertilizers has developed the fact that a number of dealers have failed to get licenses. Prosecutions will be made and unless the law is complied with sales of some brands will be stopped.

Must Have Zones.—A ruling just made by the public service commission requires street railway companies operating suburban lines to establish zones for fares. This step was taken because in some counties of the state companies had arbitrary fares, some being made without much regard for the uniformity of zones. This subject is to be given considerable attention, and companies may be compelled to print their zones for information of passengers.

Trolley Freight.—Shipments of chickens, turkeys, shoats and other live stock as trolley freight, except in cars specially provided for the purpose, have been objected to in a number of complaints made to the public service commission lately. Owing to the diversity of conditions under which trolley freight is handled the commission will go slow about making recommendations. Extensive inquiry will be made.

Grade Crossings.—Statistics furnished by the public service commission for October show appalling loss of life in rural districts where grade crossings abound and where practically no precautions are taken. There were nine people killed at grade crossings in Pennsylvania in October out of a total of 112 deaths on the rail. The number of persons injured at grade crossings was 25 out of a total of 899 hurt. These totals are for all railroad accidents, including yards and line and the men employed on the railroads. They show a condition that warrants early steps to end the points of danger. Statistics of the number of such crossings are now being gathered and the total will run into the thousands. Equally significant is the total of trespassers killed, half of the fatalities being of people who are claimed to have had no business on the railroad property.

Jump in Oleo Business.—The report of the auditor general for the fiscal year ending November 30 shows that the increase in the income from licenses to sell oleo was record-breaking. Last year oleo licenses yielded \$97,861.79. This year they netted the state \$134,734.99. This is due to the high price of butter, but it is significant that the licenses are now being issued in many small communities, whereas a few years ago they were confined to industrial towns.—Harrisburg, Pa., Dec. 8.

NEW JERSEY FARM NEWS

The Bee Industry.—Elmer G. Carr, state bee inspector, gives some interesting facts in connection with his work. He said: "There are 10,484 bee colonies in the state located on farms, and many more not on farms. Bee-keeping is not appreciated, for under prevalent methods, each hive produces only 14 pounds of honey a season, or \$1.26 worth of honey. If every bee keeper adopted approved methods each hive should produce about 35 pounds, or \$3.15 worth of honey, a season. From the middle of April to the middle of September, the bee season, Mr. Carr scoured the state for signs of "foul brood," a contagious disease. Success attended his efforts and many bees were saved.

"The Seed We Buy."—Professor John P. Helyar, state seed analyst, recently said that a progressive farmer buying seeds should get samples from several markets and make a test before planting. Two damp cloths and two plates suffice to make the test. A pure seed law could be established in New Jersey if all the truck growers banded together and demanded it. The state is preparing a number of bulletins for gratuitous distribution stating where the best seeds may be purchased.

Horticulturist Arthur J. Parley declares that the farmers of New Jersey are not yet fully aware of the great possibilities in fruit growing. His observations have led him to advocate peaches and apples, only, as the money makers. He advises these varieties: Carman, Champion and Elberta, for peaches; Yellow Transparent, McIntosh and Wealthy, for apples. The first object is to secure the best of trees, and buy them direct from the orchards to be grown in on the highest and richest ground that can be found.

Deep Plowing.—In discussing potato growing at a recent institute at Freehold, Frank P. Jones gave his experience with the deep tilling plow. He found no appreciable increase in yield of cobbles or any of the early varieties, but he obtained an increase of about 15 barrels of giants to the acre. His further experience showed that grass did not take as well where the land had been prepared by deep tilling as where the plowing was shallow.

H. Jones said grass grew better for him where he had used the deep-tilling machine, but he had cross-plowed in the spring with a mold-board plow. George W. Blatchley believed that better results from deep tilling would be shown after the first year, when the soil had more time to become thoroughly mixed. The Jones brothers will continue using acre is thus plowed.

the deep-tilling machines until every New Poultry Organization.—Poultry fanciers of the state have organized "The Inter-State Poultry Club," which it is intended shall be nation-wide. Over 500 names have already been enrolled. The headquarters will be at Asbury Park, and the future shows will be held in the Casino at that place. The organization is headed by J. Robert Livingston, one of the most prominent poultrymen in the country.

Tomato Growers Organize.—The tomato growers in the bayshore sections have organized and have informed the canners that they will not raise tomatoes next year at the proffered price of \$10 per ton. Last year the farmers decided not to sell their tomatoes for less than \$12 a ton, but later made a compromise and agreed to sell them for \$11 a ton.

The Potato Crop.—Those who grew the new "Blight-Proof" potatoes report an average of about 40 barrels per acre. They were hit by a drought immediately after being planted. Even after they became fully acclimated, it is considered doubtful if they will become commercially profitable. Those who planted Irish Cobbiers as a second crop on the same land did far better. These Cobbiers will be used for seed, and the result of their planting will be watched with interest. Recent reports indicate that the season's crop exceeded the earlier estimates. Fields apparently most injured by late frosts, yielded the best crops. Dr. Cook, state plant pathologist, states that the potato blight which affected the crop in South

Jersey will not be permanent. He assures farmers that the pest can and will be eliminated.—D. T. H.

MARYLAND NOTES

Naval Dairy Farm.—October 1, 1911, the U. S. Naval Dairy farm was established near Annapolis, from which 250 gallons of milk with certified milk requirements are supplied daily to the midshipmen. The authorities declare that since the establishment of their own milk supply there has been no sickness due to infected milk. A new site for another dairy farm for the Naval Academy's use has recently been bought at Gambrill's Station, consisting of 771 acres.

Farmers' Produce Exchange.—The Anne Arundel county farmers are organizing a produce exchange to handle co-operatively the crops of the trucks. This is to offset a reported combination among buyers and shippers to keep prices of farm crops at lowest level. It is also claimed that commission men have bought the products consigned to them, paying low prices and in some cases selling to their own agents at enhanced prices; and in other instances of repacking and shipping goods to market with their own labels and getting big prices. A dry season and poor prices have proved disastrous to farmers in the county, and it is predicted that sales under foreclosure of mortgage and bills of sale will be greater the coming winter than for years.

Farmers' Institutes.—The state farmers' institutes have commenced. The past week the institute trains have touched points on the Eastern Shore. The State Agricultural College is well represented among the expert lecturers. Director Dr. Richard S. Hill, a practical farmer, who knows every section of the state, is giving talks on crops suitable to the different sections of the state. The wild lands of scrub and white pines on many farms at this season of the year are made quite a source of revenue. The holly tree, with its bright red berries and shining green leaves, and the mistletoe become revenue getters, the demands for which make them worth while to gather and send to market. In Frederic county some farmers make money raising gold fish, utilizing natural ponds for this industry, and shipping the product to dealers in the large cities. It is estimated that over one million gold fish have been shipped from this county this year.—G. O. B.

NEW YORK LETTER

Forest and Game.—The annual meeting of the Forest, Fish and Game Association was held December 4 at Elmira. It made the following recommendations to the legislature: That state laws conflicting with federal laws pertaining to the protection of migratory birds should

be amended; that the state should appropriate money for four additional game farms; that the division chief game protectors should make monthly reports; that all convictions, fines and settlements for violation of the game laws should be published in the newspapers in the districts where they exist; that taxidermists should be licensed; that guides should be licensed; that there be a combination hunting, fishing and trapping license.

Herkimer Farm Bureau.—At the annual meeting of the Herkimer County Farm Bureau Association, Will E. Kay was re-elected president. The county agent visited about 150 farms during the year and had the active co-operation of about 150 farmers in experimenting with different crops. Experiments with alfalfa, soy beans, corn and potatoes had occupied considerable attention. Three cow-testing associations have been formed with the co-operation of the state department of agriculture. The bureau also assisted in securing farm laborers.

The Forestry Work.—The extension work of the state college of forestry last year reached 43 counties and 165 communities with a trained forester at a cost of only \$5.85 for each community. In these communities foresters addressed over 35,000 people. Already requests from over 200 communities have been received for instruction in forestry the coming year, 53 of the 61 counties of the state being represented in these applications. The college now has 3,000 lantern slides for the use of its lecturers.—D.

Five Great Mineral States.—Pennsylvania, Ohio, Illinois, and West Virginia are credited with over 40 percent of the total mineral production of the United States. Pennsylvania outranks all other states, producing nearly 25 percent of the total; West Virginia comes second; Illinois third, and Ohio fourth. California, with no standing as a producer of pig iron, ore, or coal, stands fifth in rank among the states, owing to its heavy production of gold and petroleum.

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Farm Credits Thru Farmers' Loan Associations.

By ISAAC ROBERTS.

As our farmers put in practice permanent building methods of agriculture, they will ask and deserve millions of dollars in long-time loans to properly carry out that work, and put agriculture in the United States where it belongs, and is to be: . . . and long-time amortizing mortgage-loan systems must be devised to give such methods of agriculture the credit facilities and rates they will require and deserve."—From an address by Mr. B. F. Harris, before the Indiana Bankers Association at Indianapolis, Ind., October 16, 1912.

Among the many agencies working to bring about improved social conditions, probably none has greater promise of good results than the present movement to make it possible for the American farmer to obtain financial accommodation at moderate rates of interest, as readily and with as little question as the successful manufacturer and merchant can now secure the accommodation they frequently require. It is to the credit of our people, and especially of that class from whom such accommodation is usually sought—the bankers—that they have for some time past been giving more and more attention to this problem. Many have been studying it here at home. Commissions have gone abroad to study foreign methods of extending such credit; and no doubt plans for doing so here will shortly be presented as the subject of legislation, both by the several states as well as by the national legislature.

It may be well to glance at the pressing needs of the American farmer, before discussing the method of meeting them. Listed in the order of their relative importance these may be stated as follows: The farmer has need of credit (cash) for: (1) The maintenance and improvement of the fertility of the soil; (2) making and maintaining good roads, in order to make markets available; (3) improved machinery and farm equipment, including auto-wagons; (4) improving farm buildings, with first attention to the home; (5) providing better schools, courses of lectures, with first attention to scientific farming, and for general social uplift.

To many minds it may occur that the last-mentioned need should be in the first place, as the needs of the boys and girls are paramount and education should claim the first attention. But if the farm itself is to remain as a producer, providing the living for the boys and girls, the fertility of the soil must be maintained. Its maintenance and improvement thus become a problem of the greatest importance even for the sake of the boys and girls themselves.

As illustrating the second need, that of good roads, so as to make markets available, the fact may be referred to that farm produce has been allowed to waste in the fields, almost within sight of some of our large cities, because the charge for transportation was so high as to wipe out all the farmer's return for shipping it. Within the past year the writer has seen, within twenty miles of one of our largest cities, a field containing five or six acres in which a thousand fine ripe melons were lying, dead ripe and beginning to rot; and the owner said that he would allow them to lie there, as they would not pay the cost of transportation to the city near at hand. Other instances of the

same kind will doubtless occur to the reader.

Surely something can be done, and should be done, to remedy such conditions. It is not complimentary to our intelligence that in our cities such need for food should exist, and that on our farms a few miles away good food should be going to waste. What more damaging charge of inefficiency and incompetency can be brought against us as a people than such facts show? If we are not able to solve so easy an economic problem as getting wasting food to the hungry mouths so near at hand, it would seem as the vast deal of gray matter had been generously but unwisely given to many.

The agency that has contributed most to the superior farming conditions in Europe is the extension of credit to the farmers at the times when they most need such help. One of the methods most frequently referred to is that adopted in France, and known as the method of the Credit Foncier. This is defined as follows:

"The French name for a method of borrowing money on the security of landed property which is widely practiced in France and other continental countries. The borrower takes a loan, for which he contracts to make certain annual payments, which are so adjusted as to make provision for the interest and the gradual extinction of the principal, which is fully paid when the term of the contract has been concluded. The contracts are generally made with companies organized for the purpose of loaning their capital in this manner."—New International Encyclopedia, edition of 1905.

The American Building and Loan Association System.

From the above definition of the work of the Credit Foncier, those who are familiar with the working methods of our own building and loan associations, will see how close its methods of work are to those of these associations, which have been so successful and have done so much to help build up our towns and cities, and conserve the savings of the people at slight cost and on a purely cooperative basis, with whose operations so many of our people are familiar. It seems to the writer that by a few slight changes, making them more applicable to the needs of our farmers, these well-known methods might well be adopted by our people as the practical solution of the problem of farm credits.

To those who happen to be unacquainted with the plan adopted by the building and loan association it will be sufficient to say that it contemplates the accumulation of a capital (to be lent at the legal rates of interest to those members of the association desiring to borrow it) by the regular monthly payment of fixed monthly dues by all the members. To these monthly dues are added the monthly payments for interest, and fines levied for neglect to make payments when due. The usual dues are one dollar per month per share. The usual maturity value of the stock is \$200 per share, so that the interest per month for each share borrowed would be one dollar. When the interest is at the rate of 6 percent, the stock will generally reach its maturity value in about twelve years. The amount paid in at the monthly meetings is usu-

ally put up at auction, and the member bidding the most for his loan is awarded the amount desired, subject to the approval of the security offered by a committee appointed for that purpose.

By applying this general plan to the needs of the American farmer we gain the advantage of using a method that is well known to very many of our people and that is readily understood. Because of this, and because it has demonstrated its usefulness to our people, it seems to be an available method, ready for use, and requiring only slight changes to make it fully applicable to the further needs of our farmers.

Adjustable Difficulties of the Building Association Method.

The chief difficulty in adjusting the usual method of work of the building and loan association methods to the fact that this contemplates the regular monthly payment of dues, and for the average farmer this would be difficult, if not impossible. As a general rule, the returns from farming come in or near harvest time; say, in the three fall months of the year; while his need for ready money is concentrated about seed time and in the midst of the harvest, thus distributing his need for money more or less over the other nine months.

It would seem that this difficulty could be readily met by having at least three kinds of stock in the farmers' loan associations, as these organizations might be called, the farmers' building and loan associations would also make a good title. The stock could consist of full-paid stock, upon which interest at not over the legal rate might be allowed; regular stock, to be paid for in the usual way by monthly instalments; and term stock, to be paid for at certain periods, as agreed upon when the stock is first subscribed for, and the loans made upon this class of stock to be re-paid, with interest also at certain fixed periods.

By arranging for these three kinds of stock, several objects would be attained: In the first place, those subscribing for the full-paid stock would be furnishing at once a considerable capital, which could be lent out on approved real estate security to those who wished to borrow on the other two kinds of stock; and again, the great difficulty in the way of the farmer making regular monthly payments on account of his stock, and in repayment of his loan is removed. It would be an easy matter to adjust the interest to the terms of payment as to work no injustice to any other interest in the stock. By allowing for the full-paid stock in the manner suggested, it would also be possible for banks and trust companies to take a moderate holding in such associations, provided the national bank act could be so amended as to permit of such a stock holding. This is suggested as being a quick means of providing capital at the beginning of such associations.

One great advantage of the building and loan association method is that the directors are usually the best-known business men of the community, thus inspiring confidence, attracting business, and bringing to the active direction of the association very definite knowledge of most of the members of the association—their habits, responsibility and so forth. In the suggested farmers' associations this would no doubt be the case, and would have great value as safe-guarding the interest of all the members. It would doubtless be a good idea in these associations to have one or two towns-people among the directors, especially if the monthly meetings should be held, for the sake of convenience in a town. And if, now and then, a bank director or two could be added to the board, additional strength would result. In most country

towns it usually happens that several of the directors of the local bank are farmers, and this has always a good effect. The reverse of this would no doubt prove to be of as great value to the proposed associations.

As an illustration of the possibilities of this plan of adjustment of building and loan association methods to the present needs of our farmers, the experience may be cited of one of these latter associations located in southeastern Pennsylvania, in a farming community, holding its monthly meetings in the school-house of a small village. Organized about three years ago, on the usual building and loan association plan, its receipts now are in excess of \$1,000 each month; its loans have been made almost exclusively upon farm properties, and there is a constant demand for the available funds, so that the earnings the past two years have been in excess of six percent per year. While the loans have heretofore been used for the purpose of erecting farm buildings, or in part-payment for properties purchased, there can be no good reason why the farmer-borrower should not use his borrowed money for any legitimate purpose, just as other borrowers do, provided that he gives approved real estate security for his loan.

A very great advantage of the building and loan association plan is that it provides a safe local place for the investment of the savings of those working on the farm. If the farmer pays his children for little services, as often happens, or if he has hired help, as is frequently inevitable, here will be a safe saving fund, into which a part of these amounts may be invested, thus increasing the fund available for the farmers of the neighborhood when they need it. "Self-help thru mutual help" is, as Sir Horace Plunkett has well said in a recent article, the sure method by which financial and social well-being is to come to the American farmer, just as it has come in this way to his cousins abroad.

Possible Methods of Raising Funds.

Even under existing conditions, and without any change in the present banking laws, it would still be possible for such loan associations to raise the needed funds, if certain emergencies should make this desirable. Many building and loan associations find it frequently desirable to make short-time loans at banks and trust companies, so as to have funds in hand and be able to take good mortgage loans, which otherwise they would be compelled to refuse. These loans are usually made on the plain promissory note of the association, after having been duly authorized by the action of the board, which is certified to the bank making the loan. Some years ago it was the custom in certain places for such loans to be secured as collateral loans by the assignment of mortgages held by the associations, but such loans have been questioned, inasmuch as the associations do not possess a full title to the mortgages they take from their members—the members retaining the right of redemption, which is being continually exercised; so that of recent years such loans have usually been made alone on the credit of the borrowing association, and this would seem to be the better practice.

Another method by which funds could be readily raised when this course appears fully advisable in order to accommodate a worthy member and borrower, who could not be otherwise accommodated, would be for two or three of the directors who approve of the loan, to themselves subscribe for enough full-paid stock to make the loan, and then make themselves whole by using

this full-paid stock as collateral at the local bank or trust company for a loan in their own names. This course would scarcely ever be pursued, except where the borrowing member was well known, and it was the general desire to accommodate him; but such a contingency might happen now and then, and the plan is suggested to show that present laws and banking usage make the raising of money possible, without additional legislation—albeit the latter might make it more easy for farm credits to be secured. As a feasible means of extending such loans, by the adaptation of methods already well known, the above plan is suggested.—From Annals of the American Academy.

MARKETING FARM PRODUCE.

The most difficult problem that the farmers of today have to solve is that of marketing. The questions in increased production are such that they can be worked out satisfactorily by each individual farmer, but the market problem is one in which the ambitious farmer who wishes to place his business upon a firm foundation comes in direct competition with the slothful farmer who cares for nothing but a mere living and will sell what surplus he has at any price.

I suppose there are farmers of both kinds in every community. In writing this, I have in mind more particularly those farmers who live some 25 or 30 miles from the chief market towns. Individually, these farmers usually do not have enough produce of their own to justify their making weekly trips to market. They sell their produce to the huckster, who buys as cheaply as he can and sells for as much as he can; thus he keeps prices down for the farmers and raises prices to the consumers. And even if the farmers would take their produce to the market 25 miles away, their farming operations would suffer, yields would be decreased, expenses increased, and in the end they would find themselves no better off than if they had stayed at home and sold their produce to the huckster.

There must be found another way. The busy farmer who longs for more of the comforts of life, and who from the goodness of his heart would relieve his good wife, or the mother, from some of her daily toils, must turn his attention towards his equally busy and worn neighbor, and if need be, go over into his field and enlist him in the cause of co-operation for mutual welfare. The farmer can no longer be simply a producer. He must be a business man. And just as business men in other lines of work have co-operated to form a bank, a railroad company, or to carry on some manufacturing project, just so must the farmers co-operate in solving the great rural problem, the main issue of which is the market problem.

I believe that there are enough intelligent farmers who have a great love for their business, and sufficient ambition and character to cause the soil to produce its maximum crops. To do this requires skill of a higher degree, brains of a greater capacity, and a closer application to his business than is required to gain success in any other profession or business. There are those who think that the farmers' work is done when they get their produce to the city, and that the work of distribution there should be left to the consumers. I do not believe that such a condition would prove any more satisfactory than at present, for then the farmers' business would be divided against itself, a condition which a higher authority has declared cannot stand.

Farmers themselves have the right

to lay their produce in the hands of the ultimate consumer. This is the great problem which they have to solve, and until they do solve it their business shall be considered only a secondary one by those who are engaged in the so-called higher callings. The thing we need is some system controlled by the farmers themselves in a co-operative manner that will take the produce of the farm either from the farm itself or from the nearest railroad station, and deliver it to the consumer in the shortest time possible and in the best and cheapest possible manner under the farmer's own guarantee and trademark that said article is clean, wholesome and strictly high-grade in every respect. Surely, this is an ideal condition, but I believe that when we get filled with the true spirit of co-operation, it will be possible.—V. R. Nico-demus, Blair Co., Pa.

A MARKETING COMPANY PLANNED.

At a conference held not long ago in New York City, of the Co-operative Committee of the New York State Agricultural Department and the New York State Grange, also the executive committee of the National Housewives' League, plans were devised for more effective co-operation between producer and consumer. It was proposed to establish a Marketing Company with a capital stock of \$5,000,000 in shares of \$5 each. The plan suggested contemplates the establishment of sufficient receiving terminals, retail food stores and manufacturing facilities; also the federation of all small co-operative societies and securing the co-operation of the federal authorities with the state departments of all the states on the Atlantic seaboard as well as the different state departments of agriculture and the granges.

There seemed to be some doubt in the minds of some of the conferees as to the possibility of securing the co-operation of the federal government or even of the different state departments because of differing conditions and the lack of uniformity in co-operative laws. It was thought that the plan should have the endorsement of the Bureau of Markets of the federal government, if possible.

The whole matter was referred to a sub-committee consisting of Mrs. Julian Heath, of the National Housewives' League; W. H. Vary, master of the State Grange, and Mr. Cole, representing the State Agricultural Department. The executive committee will call a conference not later than February, 1914, and possibly at the time of the annual meeting of the State Agricultural Society at Albany, in January next, at which time the sub-committee will be able to report some definite plans of co-operation.—J. W. D.

State Grange Health Committee.—The tuberculosis committee of the New York State Grange, which worked last year in co-operation with the State Charities' Aid Association, held a meeting recently at Rochester and decided to push the sale of Red Seal stamps again this year. Many thousands were sold last year. The name of the committee will be changed to the state grange Public Health committee.

Executive Committee Meets.—The executive committee of the state grange met recently in Watertown at State Master Vary's office to arrange for the work of the sixth degree at the next meeting of the state grange. The sixth degree will be conferred at the grange in the state armory at Poughkeepsie on the Thursday evening of state grange week. It is thought the attendance will be about 2,000.

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Get this long-
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imitations that are not even real chewing gum so
they resemble genuine WRIGLEY'S. The better class
of stores will not try to fool you with these imitations. They
will be offered to you principally by street fakirs, peddlers and the
candy departments of some 5 and 10 cent stores. These imitations
cost dealers one cent a package or even less and are sold to careless people for al-
most any price. If you want Wrigley's look before you buy. Get what you pay for.
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us that they have been deceived by imitations which they purchased thinking they were Wrigley's.

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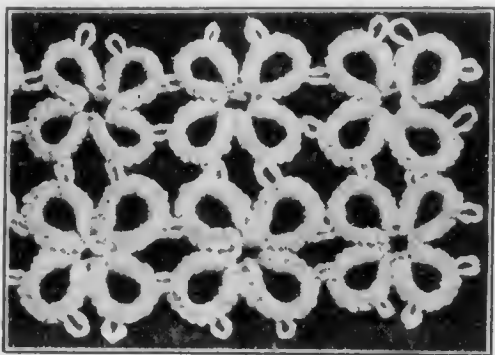
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Beautiful case-hardened finish and superb build and balance. Price, round barrel,
\$14.50; octagon, \$16.00. Model 1897, similar, but not take-down, prices, \$12.50 up.
Learn more about all Marlin repeaters. Send 3
stamps postpaid for the 128-page Marlin catalog.

The Marlin Firearms Co.,
127 Willow St., New Haven, Conn.

Household

CHRISTMAS HANDKERCHIEFS.

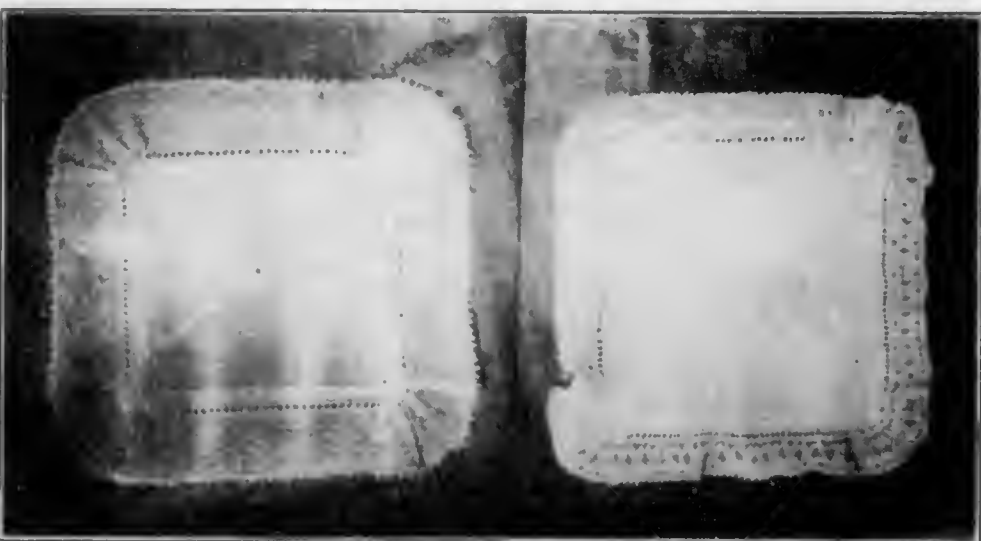
A dainty handkerchief for a Christmas gift is made from best handkerchief linen and trimmed with linen tuchon lace. There is a tiny hem run in and the lace is overcast to the edge of the handkerchief. This will sell for from 75 cents to \$1.00. One old lady who is 75 years old makes dozens of these handkerchiefs.



No. 1.

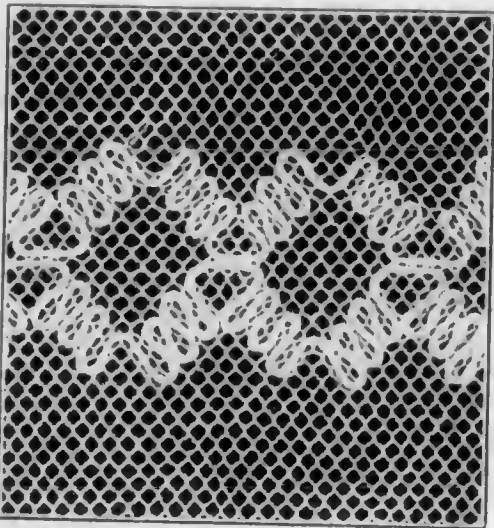
Still another has a linen lawn center and is trimmed with tatting made from number 60 thread. The hem is turned and fastened down in scallops by crocheting thru the goods; it is a pretty finish, but not a very durable one. A handkerchief made like this will sell for \$1.00. The thread used may be linen or No. 40 cotton.

Illustration No. 1 is the detail of the above handkerchief. Make the four-



No. 2.

leaved figure of 6 drop, 1 picot, 6d, 1p, 6d, draw into a ring and make three more rings just like this one, then cut the thread and tie the ends closely together. Make another figure just like this, only instead of making the inside picots on two of the rings fasten them to the previous one made, as is shown



No. 4.

in the illustration. Make a strip long enough to go around and fasten to the handkerchief by the picots.

No. 2 is made on dotted footing with a linen lawn center. It is hemstitched, and should sell for at least \$1.00.

No. 3 is made of footing and tatting like that on number two. No. 4 is the detail of work on the footing of number

three, and will be easy to make from the detail. Five holes are used.

A hemstitched linen center with all tatting border, which sells for \$2.50, has tatting made as follows: Make first with two threads; with one, make a ring of 4 drop, 1 picot, 4d, 1p, 4d, 1p, 4d, draw into a ring and with two threads make 6d 1p 6d then with one thread make a ring like first. Repeat until you have enough to go around; then make a larger ring of 9p, with 2d between, cut off and tie; then make 6d, fasten in picot of first ring, 6d draw up, leave a quarter-inch of thread and make a ring of 4d, 1 long p, 2d, 1p, (short one), 2d, 1p, 2d, 1p, 2d 1 long p, 4d, draw into a ring, leave a space of thread, turn the work and make a small ring like first small one, fastening it into the next picot of first ring made. Fasten the wheel to the first part by the center short picot of a ring to the picot in the part made with two threads. Fasten the handkerchief by the picots of first row. This handkerchief when made from silk is valued very highly. Yet it is simple enough so that any one who makes tatting may easily make it. Use No. 60 thread if working with cotton. The completed handkerchief is seen in illustration No. 5.—Geneva M. Sewell.

CHRISTMAS SHOPPING HINTS.

Gifts for Boys and Girls.

If the boy of the family has any athletic interests it is not difficult to find presents that will make his heart rejoice. First, there are all kinds of balls,

be used by a number of boys at home, it is better to pay more than \$1.00, as it will wear out too soon. From \$2.50 to \$3.00 will buy a ball that will stand any amount of hard usage, provided the ball is not allowed to become water-soaked. Skates make an acceptable gift to boys who have an opportunity to use ice on ponds, creeks or rivers. These range in price from the expensive tubular hockey skates at \$6 and \$11.00, to the plain every-day skates at 50 cents a pair. A good pair of key clamp hockey skates may be had at \$1.50, and ordinary skates with runners of best, cold-rolled steel at 75 cents a pair. Double-runner sled skates for children are sold at 50 cents a pair. With these skates children may be taken on the ice with very little danger of their getting hurt. And the boy who has skates would very likely appreciate a hockey stick, which costs 50 cents for the regulation size, and 25 cents for the practice hockey sticks.

Good warm caps for wear in cold weather are shown at 50 cents to \$1.00 each, and fine gauntlets, warm and strong, at the same price. Every boy likes a thick serviceable sweater, which are shown at from \$3.50 to \$7.50 the garment. There are some priced at \$1.50, but these have a good deal of cotton in them, and while they are fine for men and boys to wear under their coats in severe weather, they are not warm enough to be worn without coats while taking part in games and other sports. For the young man or older man of the family, especially nice fur caps are shown at from \$2.50 to \$18. These are fine for any one who has to do much driving in cold weather.

If the young man of the family travels or goes to school or college, he would appreciate, in all probability, a traveling case, with brush, comb, soap box, etc., or a folding coat-hanger in a neat case (this latter at 45 cents), or a pair of traveling slippers, which fold up and slip into a case. A suit case often makes a most acceptable gift for some member of the family, and excellent ones may be had from \$3.50 for fibre cases, to \$5.00 for leather ones. The rattan suit cases are particularly nice for young ladies, as they are lighter and easier to carry.

Any number of smaller articles are displayed in pretty Christmas boxes. There are neckties at 25 cents up to London scarfs at \$1.50 each, and suspenders and garters in box for 50 cents. Pretty durable cuff buttons are offered at 50 cents; better ones at a dollar. Stick pins of good value may be bought for 50 cents, and of excellent value at \$1.00. A neat umbrella, at \$1.50 to \$2.00, makes a present that usually is pleasing to men, women and children. Those with the wooden handles are to be preferred.

Among the pretty gifts for young girls and young women are the Parisian ivory toilet articles—brushes, mirrors, combs, trays, clocks, and picture frames—and at almost all prices. There are all kinds of sweet-scented toilet powder, (borated powders, not complexion powders) which are so soothing for chapped or 'arsh faces and hands. And toilet water, either violet ammonia or any of the sweet-scented kinds, are liked by the elderly ladies of the family as well as the younger. A good-sized bottle of either may be bought for 50 cents.

There never were daintier or prettier aprons shown than are displayed this season. Sheer lawns with dainty embroidered ruffles, lawn lace and ribbons; sheer linen embroidered aprons, and all at moderate prices, considering the material and workmanship.

But whether your gift be great or small, be sure it bears with it the true

be used by a number of boys at home, it is better to pay more than \$1.00, as it will wear out too soon. From \$2.50 to \$3.00 will buy a ball that will stand any amount of hard usage, provided the ball is not allowed to become water-soaked.

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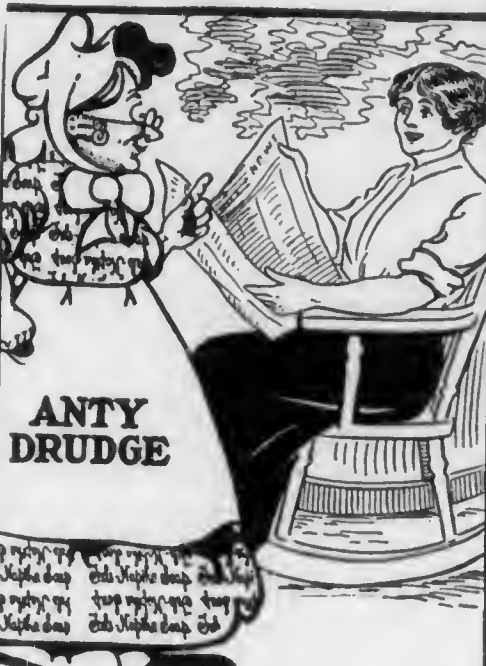
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Mrs. Serene: "Good morning, Anty. I guess you're surprised to see me sitting here, instead of doing my washing, but I'm waiting for the R. F. D. to bring my Fels-Naptha Soap I ordered from town. I won't use anything else, so I order it by the carton by Parcel Post. It won't take long to do the wash after it gets here, and it ought to be along soon."

Anty Drudge: No wonder you keep so well and young looking—doing your work the easy, cool way, with Fels-Naptha Soap."

Fels-Naptha Soap does away with a hot fire, heavy wash-boilers and back-breaking rubbing. Clothes washed with Fels-Naptha are on the line in half the time—sweet, clean and white and you are not all tired out, either.

Fels-Naptha dissolves grease on pots and pans and makes china and glassware glisten. Use it for all kinds of housework in cool or luke-warm water.

Follow the directions on the red and green wrapper.

Better buy it by the box or carton
Fels & Co., Philadelphia.



Christmas spirit, good will to all.—N. D. Hitehcock.

THE KITCHEN SOISSORS.

Surely there is no housekeeper who has not a pair of scissors in her kitchen, if only to trim lamp wicks or cut paper and string. Few housewives seem to realize the various uses of this utensil. My kitchen scissors are my faithful friend. They have their own especial work, being placed conveniently near my working table.

Sometimes you have a head of lettuce with a very unsatisfactory appearance. The leaves are ragged, with imperfect ends. Wash these leaves and trim away the ugly portions. Place the trimmed leaves one on top of another, roll into a firm bundle and chop with scissors into slender strips. Lay this shredded lettuce about individual salads or a large salad. This makes a satisfactory garnish and uses lettuce that is unsightly and would otherwise be thrown away.

After taking bone, skin and gristle from chicken, veal or any meat to be made into a salad cut meat into small cubes with scissors. You can make quick work of it. A chicken can be cut up for frying or stewing quite quickly with the scissors; very little practice being necessary to become expert in cutting at the joints. This method of dismembering is far better than using a knife or hatchet.

Give your rolls smooth, sharp edges by snipping the ends with the scissors. When doing this, dust blades with flour. In cutting pulled taffy before it is hard, the scissors do fine work. You can cut small or large pieces as desired. Celery, nuts, oranges, grape fruit, raisins and grapes can be quickly cut in this way in small portions for salads or desserts. When cutting peppers and other vegetables for chow chow or any fine pickle, use this kitchen friend. See how lightly and quickly this usually tedious work is done. When layer raisins or large bunches of grapes must be separated into small bunches, you can do it speedily with the scissors.

Sandwiches may be cut with the scissors into attractive shapes—long, round or triangular. If you wish to ornament fancy candies, cut little bits from citron or lemon peel and place on top of candy. Cookies and cakes may be treated likewise. When preparing grape fruit, cut in half and separate sections with scissors and remove tough skin. Sometimes a grape fruit or orange is used as a basket for holding an individual salad. The shaping is done with the scissors. When making your sugar or ginger cakes, fashion them with the scissors. You can cut birds, leaves, trees; stars for Christmas; hearts for St. Valentine's, and hatchets for Washington's birthday; cats and witches for Hallowe'en.

All unsealed, unmailed envelopes that come with advertisements are zealously saved and kept in a certain box in my kitchen cupboard. After many are accumulated, I trim them, leaving only a small margin with the unmailed portions. These portions are put away ready for labeling preserves, jellies, pickles, and any bottle which must be properly named for the medicine closet. Paper bottoms for cake pans, paraffin paper covers for jelly, and wrappers for children's linnens are cut with this indispensable instrument.

Some of the foregoing I have learned from "experimental investigation;" others from neighbors and magazines. Try using this utensil in some of the ways mentioned. You will soon find new uses yourself, and a discovery to a housewife is a keen delight.—Charlotte Marshall, Maryland.

BOUILLON CUBES NOT CONCENTRATED MEAT ESSENCE.

Home-made Broth More Nutritious and Economical.

The belief of many people that bouillon cubes are concentrated meat essence and of high nutritive value has been shattered by a recently issued bulletin of the Department of Agriculture. While they are valuable stimulants or flavoring agents, they have little or no real food value and are relatively expensive in comparison with home-made broths and soups. This bulletin (No. 27) compares the contents and food value of bouillon cubes with meat extracts and home-made preparations of meat.

The ordinary commercial bouillon cubes, according to this bulletin, consist of from 1 to 1 1/2 table salt. As they range in price from 10 to 20 cents an ounce, purchasers of these cubes are buying salt at a high price. The cubes do contain a small amount of protein (muscle-building material) in addition to their stimulating properties, and the makers of most of the cubes make no advertised claim that they are concentrated beef broth or essence. However, many housewives believe that they are and that they possess high nutritive value, especially for invalids. This is not the case. The fact that the cubes sell for from 1 to 2 cents each, and each cube makes a cup of broth, misleads the housewife into believing that she is securing meat extract cheaply when really she is buying it in an expensive form.

According to analyses of these cubes, besides the common salt which constitutes from 49 to 72 percent of the total weight, the amount of meat extract ranges from 8 percent in the poorest brands to but 28 percent in the very best. The third important ingredient is plant or vegetable extract, which constitutes from 3 to 30 percent. This plant extract is useful because of its flavoring properties, but has slight, if any, nutritive value.

Altho the cost of making the beef broth, using expensive meat, is about 4 1/3 cents per cup, the broth contains all the fat of the meat which is a valuable food and which is practically eliminated from ordinary commercial meat extracts. Also, the meat, after the soup is made, is available for the preparation of hash. The cost could be greatly reduced if the meats are purchased at lower priced markets or if less expensive cuts are used, and the home-made broth would still have much greater food value than the bouillon.

A Recipe for Meat and Vegetable Soup.—The bulletin recommends a wholesome meat and vegetable soup which will furnish enough for a family of five, at a cost of approximately 15 cents. This may be made according to the following recipe: One soup bone, weighing about 24 ounces, (1-3 meat), costing 10 cents. After being washed, it should be placed in a large kettle with three pints of cold water and heated for three hours, when the bone and meat should be removed.

Provide one-fourth of a small head of cabbage, one onion, one carrot, one large potato, two small tomatoes, a little flour seasoning, costing about 6 cents. Chop these vegetables and add to the soup. Boil the mixture for one hour; thicken slightly with a little flour, and season with salt and pepper.

The home-made soup made according to the above recipe contains in addition to meat extracts, gelatin from the bone, some of the food elements in the vegetables, and a large proportion of the fat and meat of the bone.

Meat Extracts.—While the purchaser

of semi-solid meat extracts obtains two to three times the amount of meat extract that he does by spending the same money for bouillon cubes, these extracts also are not concentrated beef according to the analyses made by the Department's chemist. They contain from 45 to 65 percent meat extract, 15 to 25 percent water, 5 to 20 percent salt, and 10 to 20 percent of ash other than salt. The cost of meat extracts at retail is 45 cents for 2 ounces or more. Fluid extracts of meat are even more expensive than the semi-solid meat extracts, consisting of at least one-half water, but selling at about the same price, volume for volume, as the semi-solid extract which contains more than 25 percent of water.

Commercial meat juice preparations cost from 50 to 75 cents for 2 ounces of liquid, and are frequently merely dilute solutions of the semi-solid meat extracts. When the amount of food actually present in them is considered, they are expensive articles of diet. In making them the protein (muscle-building material) which is pressed out of meat and is present in freshly-made meat juice, is entirely removed by the manufacturer in order to make a product which may be kept a long time without spoiling. Therefore, the most valuable food elements of the meat juice usually do not reach the consumer in these commercial products.

The bulletin contains cuts and tables illustrating the relative contents and food values of bouillon cubes, meat extracts and home-made preparations, and may be had on application to the Division of Publications, U. S. Dept. of Agriculture, Washington, D. C.

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Winston of the Prairie

By HAROLD BINDLOSS

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SYNOPSIS OF PREVIOUS CHAPTERS.

Farmer Winston, having failed as a homesteader, desperate, accepted a proposal to simulate Lance Courthorne, an adventurer. Courthorne and his pals are thus able to carry thru some smuggling operations. In the dash with the police, Courthorne kills Trooper Shannon, leaving evidence pointing to Winston as the murderer. The scene shifts to Silverdale, founded by Colonel Barrington. The Colonel is worried over wheat operations and the coming advent of Lance Courthorne, cousin to Maud Barrington, niece and ward of Colonel Barrington, to claim his share of his father's estate. Maud Barrington is told of Courthorne's past misdeeds. Winston, meanwhile, has pushed on to Montana, being held and later released, for lack of evidence, by government officers, who disclose the belief on the part of the police, that Winston is the murderer of Trooper Shannon. A letter for Courthorne is opened by Winston. Complying with instructions therein, he meets and confers with a lawyer respecting Courthorne's inherited acres at Silverdale, and following out his role as simulator of Courthorne, goes to Silverdale, and is there received as graciously as could be expected. Some of his actions fail to tally with Courthorne's reputation. He wins the good will of Dane, one of the Colonel's advisers. The real Courthorne, who was supposed to have been drowned during the smuggling adventure, now reappears in Montana, inadvertently learns of his inheritance, and pieces together conclusive evidence that Winston has gone to Silverdale. Courthorne and Ally Blake, whose life he has blighted, agree to ignore each other's identity. Winston and Maud Barrington, caught by a blizzard while driving to Silverdale, find shelter in a deserted shed over night, where he acts the part of a considerate gentleman. Maud Barrington promises Winston to sow her land in wheat the following spring. Under criticism from the Colonel, Winston begins planting operations. The present instalment finds Winston puzzled as to how to proceed in removing a young English lad from gambling companions, a work undertaken at Maud Barrington's request.

CHAPTER XIII.—(Continued.)

"You have taken on a big contract, Courthorne. How are you going to get the young ass out?" he said.

"Well," said Winston, "it would gratify me to take him by the neck, but as I don't know that it would please the Colonel if I made a public spectacle of one of his retainers, I fancy I'll have to tackle the gambler. I don't know him, but as he comes from across the frontier it's more than likely he has heard of me. There are advantages in having a record like mine, you see."

"It would, of course, be a kindness to the lad's people—but the young fool is scarcely worth it, and it's not your affair," said Dane reflectively.

Winston guessed the drift of the speech, but he could respect a confidence, and laughed a little. "It's not often I have done any any one good turn, and the novelty has its attractions."

Dane did not appear contented with this explanation, but he asked nothing further, and the two sat watching the men about the table, who were evidently growing eager.

"That's two hundred the kid has let go," said somebody.

There was a murmur of excited voices, and one rose hoarse and a trifle shaky in the consonants above the rest.

"Show you how a gentleman can stand up, boys. Throw them out again. Two hundred this time on the game!"

There was silence and the rustle of shuffled cards; then once more the voices went up. "Against him! Better let up before he takes your farm. Oh, let him face it and show his grit—the man who slings around his hundreds can afford to lose!"

The lad's face showed a trifle paler thru the drifting smoke, tho a good many of the cigars had gone out now, and once more there was the stillness of expectancy thru which a strained voice rose.

"Going to get it all back. I'll stake you four hundred!"

Winston rose and moved forward quietly, with Dane behind him, and then stood still where he could see the table. He had also very observant eyes, and

was free from the excitement of those who had a risk on the game. Still, when the cards were dealt, it was the gambler's face he watched. For a brief space nobody moved, and then the lad flung down his cards and stood up with a grayness in his cheeks and his hands shaking.

"You've got all my money now," he said. "But I'll play you doubles if you'll take my paper."

The gambler nodded and flung down a big pile of bills. "I guess I'll trust you. Mine are here."

The bystanders waited motionless, and none of them made a bet, for any stakes they could offer would be trifles now; but they glanced at the lad, who stood tensely still, while Winston watched the face of the man at the table in front of him. For a moment he saw a flicker of triumph in his eyes, and that decided him. Again, one by one, the cards went down, and then while everybody waited in strained expectancy the lad seemed to grow limp suddenly and groaned.

"You can let up," he said hoarsely. "I've gone down!"

Then a hard brown hand was laid upon the table, and while the rest stared in astonishment, a voice which had a little stern ring in it said, "Turn the whole pack up, and hand over the other one."

In an instant the gambler's hand swept beneath his jacket, but it was a mistaken move, for as swiftly the other hand brown fingers closed upon the pile of bills, and the men, too astonished to murmur, saw Winston leaning very grim in face across the table. Then it tilted over beneath him and the cards were on the gambler's knees, while, as the two men rose and faced each other, something glinted in the hands of one of them.

It is more than probable that the man did not intend to use it, and trusted to its moral effect, for the display of pistols is not regarded with much toleration on the Canadian prairie. In any case, he had not the opportunity, for in another moment Winston's right hand had closed upon his wrist and the gambler was struggling fruitlessly to extricate it. He was a muscular man, but he had not toiled or led a Spartan life for eight long years. Before another few seconds had passed he was wondering whether he would ever use that wrist again, while Dane picked up the fallen pistol and put it in his pocket with the bundle of bills Winston handed him.

"Now," said the latter, "I want to do the square thing. If you'll let us strip you and turn out your pockets, we'll see you get any winnings you're entitled to when we've straightened up the cards."

The gambler was apparently not willing, for, tho it is possible he would have found it advisable to play an honest game across the frontier, he had evidently surmised that there was less risk of detection among the Canadian farmers. He probably knew they would not wait long for his consent, but in the first stages of the altercation it is not as a rule insuperably difficult for a fearless man to hold his own against an indignant company who have no definite notion of what they mean to do, and it was to cover his retreat he turned to Winston.

"And who the — are you?" he asked.

Winston smiled grimly. "I guess you have heard of me. Any way, there are a good many places in Montana where they know Lance Courthorne. Quite sure I know a straight game when I see it."

The man's resistance vanished, but he had evidently been taught the necessity of making the best of defeat in his profession, and he laughed as he swept his glance around at the angry faces turned upon him.

"If you don't there's nobody does," he said. "Still, as you've got my pistol and 'most dislocated my wrist, the least you can do is to get a partner out of this."

There was an ominous murmur, and the lad's face showed livid with fury and humiliation, but Winston turned quietly to the hotel keeper.

"You will take this man with you into your side room and stop with him there," he said. "Dane, give him the bills. The rest of you had better sit down here and make a list of your losses, and you'll get whatever the fellow has upon him divided amongst you. Then, because I ask you, and you'd have had nothing but for me, you'll put him in his wagon and turn him out quietly upon the prairie."

"That's sense, and we don't want no circus here," said somebody.

A few voices were raised in protest, but when it became evident that one or two of the company were inclined to adopt more Draconic measures, Dane spoke quietly and forcibly, and was listened to. Then Winston reached out and grasped the shoulder of the English lad, who made the last attempt to rouse his companions.

"Let him alone, Ferris, and come along. You'll get most of what you lost back tomorrow, and we're going to take you home," he said.

Ferris turned upon him hoarse with passion, flushed in face, and swaying a trifle upon his feet, while Winston noticed that he drew one arm back.

"Who are you to lay hands on a gentleman?" he asked. "Keep your distance. I'm going to stay here, and, if I'd had my way, we'd have kicked you out of Silverdale."

Winston dropped his hand, but the next moment the ornament of a distinguished family was seized by the neck, and the farmer glanced at Dane.

"We've had enough of this fooling, and he'll be grateful to me tomorrow," he said.

Then his captive was thrust, resisting strenuously, out of the room, and with Dane's assistance, conveyed to the waiting wagon, into which he was flung almost speechless with indignation.

"Now," said Dane quietly, "you've given us a good deal more trouble than you're worth, Ferris, and if you attempt to get out again I'll break your head for you. Tell Courthorne how much that fellow got from you."

In another ten minutes they had jolted across the railroad track and were speeding thru the silence of the lonely prairie. Above them the clear stars flung their cold radiance down thru vast distances of liquid indigo, and the soft heat of hoofs was the only sound that disturbed the solemn stillness of the wilderness. Dane drew in a great breath of the cool night air, and laughed quietly.

"It's a good deal more wholesome here in several ways," said he. "If you're wise, you'll let up on card playing and hanging around the settlement, Ferris, and stick to farming. Even if you lose almost as many dollars over it, it will pay you considerably better. Now, that's all I'm going to tell you, but I know what I'm speaking of, because I've had my fling—and it's costing me more than I care to figure out

You, however, can pull up, because by this time you have no doubt found out a good deal, if you're not all a fool. Curiosity's at the bottom of half our youthful follies, isn't it, Courthorne? We want to know what the things forbidden actually taste like."

"Well," said Winston dryly, "I don't quite know. You see, I had very little money in the old country and still less leisure to spend either on that kind of experimenting. Where to get enough to eat was the one problem that worried me."

Dane turned a trifle sharply. "We are, I fancy, tolerably good friends. Isn't it a little unnecessary for you to adopt that tone with me?"

Winston laughed, but made no answer, and their companion said nothing at all. Either the night wind had a drowsy effect on him, or he was moodily resentful, for it was not until Winston pulled up before the homestead whose lands he farmed indifferently under Barrington's supervision, that he opened his mouth.

"You have got off very cheaply to-night, and if you're wise you'll let that kind of thing alone in future," said Winston quietly.

The lad stepped down from the wagon and then stood still. "I resent advice from you as much as I do your—uncalled for insolence an hour or two ago," he said. "To lie low until honest men got used to him would be considerably more becoming to a man like you."

"Well," said Winston, stung into forgetfulness, "I'm not going to offend in that fashion again, and you can go to the devil in the way that most pleases you. In fact, I only pulled you out of the pit tonight because a lady, who apparently takes a quite unwarmed interest in you, asked me to."

Ferris stared up at him, and his face showed almost livid thru the luminous night.

"She asked you to?" he said. "By the Lord, I'll make you sorry for this."

Winston said nothing, but shook the reins, and when the wagon lurched forward Dane looked at him.

"I didn't know that before," he said.

"Well," said Winston dryly, "if I hadn't lost my temper with the lad, you wouldn't have known now."

Dane smiled. "You miss the point of it. Our engaging friend made himself the laughing stock of the colony by favoring Maud Barrington with his attentions when he came out. In fact, I fancy the lady in desperation had to turn her uncle loose on him before he could be made to understand that they were not appreciated. I'd keep my eye on him, Courthorne, for the little beast has shown himself abominably vindictive occasionally, tho I have a notion he's scarcely to be held accountable. It's a case of too pure a strain and consanguinity. Two branches of the family—marriage between land and money, you see."

"It will be my heel if he gets in my way," said Winston grimly. "It was late when they reached his homestead, where Dane was to stay the night, and when they went in a youthful figure in uniform rose up in the big log-walled hall. For a moment Winston's heart almost stood still, and then holding himself in hand by a strenuous effort, he moved forward and stood where the light of a lamp did not shine quite fully upon him. He knew that uniform, and he had also seen the lad who wore it, once or twice before, at an outpost six hundred miles away across the prairie. He knew the risk he took was great, but it was evident to him

that if his identity escaped detection at first sight, use would do the rest, and while he had worn a short-pointed beard on the Western prairie, he was cleanly shaven now.

The lad stood quite still a moment staring at him, and Winston returning his gaze steadily felt his pulses throb. "Well, trooper, what has brought you here?" he said.

"Homestead visitation, sir," said the lad, who had a pleasant English voice. "Mr. Courthorne, I presume—accept my regrets if I stared at you—but for a moment you reminded me of a man I knew. They've changed us round lately, and I'm from the Alberta squadron just sent into this district. It was late when I rode in, and your people were kind enough to put me up."

Winston laughed. "I have been taken for another man before. Would you like anything to drink, or a smoke before you turn in, trooper?"

"No, sir," said the lad. "If you'll sign my docket to show I've been here, I'll get some sleep. I've sixty miles to ride tomorrow."

Winston did as he was asked, and the trooper withdrew, while when they sat down to a last cigar it seemed to Dane that his companion's face was graver than usual.

"Did you notice the lad's astonishment when you came in?" he asked. "He looked very much as if he had seen a ghost."

Winston smiled. "I believe he fancied he had. There was a man in the district he came from who some folks considered resembled me. In reality, I was by no means like him, and he's dead now."

"Likenesses are curious things, and it's stranger still how folks alter," said Dane. "Now, they've a photograph at Barrington's of you as a boy, and while there is a resemblance in the face, nobody with any discernment would have fancied that lad would grow into a man like you. Still, that's of no great moment, and I want to know just how you spotted the gambler. I had a tolerably expensive tuition in most games of chance in my callow days, and haven't forgotten completely what I was taught then, but tho I watched the game, I saw nothing that led me to suspect crooked play."

Winston laughed. "I watched his face, and what I saw there decided me to try a bluff, but it was not until he turned the table over I knew I was right."

"Well," said Dane dryly, "you don't need your nerves toned up. With only a suspicion to go upon, it was a tolerably risky game. Still, of course, you had advantages."

"I have played a more risky one, but I don't know that I have cause to be very grateful for anything I acquired in the past," said Winston with a curious smile.

Dane stood up and flung his cigar away. "It's time I was asleep," he said. "Still, since our talk has turned in this direction, I want to tell you that, as you have doubtless seen, there is something about you that puzzles me occasionally. I don't ask your confidence until you are ready to give it me—but if ever you want anybody to stand behind you in a difficulty, you'll find me rather more than willing."

He went out, and Winston sat still, very grave in face, for at least another hour.

(To be continued.)

sonal injury, but very little richer than when he entered it. The rest of those who were present at his meeting with Winston were also not desirous that their friends should know that they had been victimized, and because Dane was discreet news of what had happened might never have reached Silverdale had not one of the younger men ridden in to the railroad a few days later. Odd scraps of conversation overheard led him to suspect that something unusual had taken place, but as nobody seemed to be willing to supply details, he returned to Silverdale with his curiosity unsatisfied. As it happened, he was shortly afterwards present at a gathering of his neighbors at Macdonald's farm and came across Ferris there.

"I heard fragments of a curious story at the settlement," he said. "There was trouble of some kind in which a professional gambler figured last Saturday night, and the nobody seemed to want to talk about it, I surmised that somebody from Silverdale was concerned in it."

He had perhaps spoken a trifle more loudly than he had intended, and there were a good many of the Silverdale farmers with a few of their wives and daughters whose attention was not wholly confined to the efforts of Mrs. Macdonald at the piano in the long room just then. In any case a voice broke thru the silence that followed the final chords.

"Ferris could tell us if he liked. He was there that night."

Ferris, who had cause for doing so, looked uncomfortable, and endeavored to sign to the first speaker that it was not desirable to pursue the topic.

"I have been in tolerably often of late. Had things to attend to," he said.

The other man was, however, possessed by a mischievous spirit or did not understand him. "You may just as well tell us now as later, because you never kept a secret in your life," he said.

In the meantime, several of the others had gathered about them, and Mrs. Macdonald, who had joined the group, smiled as she said, "There is evidently something interesting going on. Mayn't I know, Gordon?"

"Of course," said the man who had visited the settlement. "You shall know as much as I do, tho that is little, and if it excites your curiosity, you can ask Ferris for the rest. He is only anxious to enhance the value of his story by being mysterious. Well, there was a more or less dramatic happening, of the kind our friends in the old country unwarrantably fancy is typical of the West, in the saloon of the settlement not long ago. Cards, pistols, a professional gambler, and the unmasking of foul play, don't you know. Somebody from Silverdale played the leading role."

"How interesting!" said a young English girl. "Now, I used to fancy something of that kind happened here every day before I came out to the prairie. Please tell us, Mr. Ferris! One would like to find there is just a trace of reality in our picturesque fancies of debonair desperadoes and big-hatted cavaliers."

(To be continued.)

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CHAPTER XIV.

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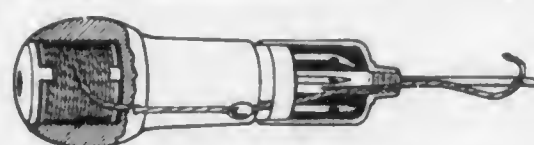
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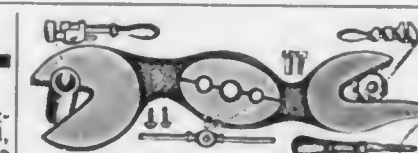


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Markets

PHILADELPHIA PRODUCE.

Philadelphia, Pa., Dec. 8, 1913.
Limited receipts of high-grade butter were cleaned up at top prices. Egg receipts were somewhat in excess of current trade. The poultry market was dull and barely steady. Fruit and vegetable offerings were somewhat limited. The market was without important change.

Butter.—Western creamery, 37c; extras, 38c; 38c; extra to seconds, 34c; special prints, 41c; 44c; near-vy prints, 38c.
Eggs.—Candled, 42c; 45c doz; extras, 39c. Current receipts at \$3.00 per standard case.
Poultry.—Fowls, 15c; old roosters, 11c; 12c; pigeons, 16c; 20c pair.
Dressed Poultry.—Western fowls, 13c; 10c; roosters, 12c; 13c; turkeys, 17c; 23c; squabs, 22c; 4c doz.

Vegetables.—White potatoes, Pa., 25c; 30c bu. Onions, 22c; 25c per 100-lb. bag. Peppers, Jersey, 75c; 1.00 hamper. Eggplants, 84c; 6.00 doz. Lettuce, 31c; 25c hamper. Beans, 2c; 2 1/2c lb. Sweet potatoes, 35c; 45c bag. String beans, 25c; 5.00 doz. Squash, 31c; 2.00 doz. Cucumbers, Florida, 33c; 4.00 hamper. Celery, 40c; 75c doz stalks. Cabbage, 30c; 40c bag. Cauliflower, 22c; 25c doz.

Fruit.—Apples, 33c; 5.00 bbl. Pineapples, per crate, 22c; 25c. Grapes, California, 15c; 2.00 crate. Pears, Riefers, 40c; 75c box.

Hay and Grain.—No. 1, medium, \$13.50; 12c; no grade, \$10.00; 12.00. Clover mixed hay, light mixed at \$18.00; 18.50. Straw, No. 1, new straight, 12c; 17c; 17.50; No. 2, do, 18c; 16.50; No. 1 tangled rye straw, 12.00; 12.50; No. 2, do, 11c; 10.50; No. 1 oat straw, 10c; 10.50; new shelled corn, No. 2 yellow, 80c; 81c; wheat, No. 2, red, 93c; 94c; No. 1 Northern, 97c; 98c; No. 2 white, 94c; 95c; No. 1 white, 44c; 45c; Standard white, 45c; 46c.

Coffee.—Rio, 12c; Santos, 12c; 12c. Mild Coffee.—Cordova, 13c; 10c.

Sugar.—Cut loaf, 53c; 54c; cubes, 44c; 45c; granulated, 44c; 45c; standard granulated, 44c; 45c; Crystal A, 44c; 45c.

Flour.—For 1913, in wood, winter-clear, \$3.75; 4.00; 4.20; 4.30; 4.40; 4.50; 4.60; 4.70; 4.80; 4.90; 5.00; 5.10; 5.20; 5.30; 5.40; 5.50; 5.60; 5.70; 5.80; 5.90; 6.00; 6.10; 6.20; 6.30; 6.40; 6.50; 6.60; 6.70; 6.80; 6.90; 7.00; 7.10; 7.20; 7.30; 7.40; 7.50; 7.60; 7.70; 7.80; 7.90; 8.00; 8.10; 8.20; 8.30; 8.40; 8.50; 8.60; 8.70; 8.80; 8.90; 9.00; 9.10; 9.20; 9.30; 9.40; 9.50; 9.60; 9.70; 9.80; 9.90; 10.00; 10.10; 10.20; 10.30; 10.40; 10.50; 10.60; 10.70; 10.80; 10.90; 11.00; 11.10; 11.20; 11.30; 11.40; 11.50; 11.60; 11.70; 11.80; 11.90; 12.00; 12.10; 12.20; 12.30; 12.40; 12.50; 12.60; 12.70; 12.80; 12.90; 13.00; 13.10; 13.20; 13.30; 13.40; 13.50; 13.60; 13.70; 13.80; 13.90; 14.00; 14.10; 14.20; 14.30; 14.40; 14.50; 14.60; 14.70; 14.80; 14.90; 15.00; 15.10; 15.20; 15.30; 15.40; 15.50; 15.60; 15.70; 15.80; 15.90; 16.00; 16.10; 16.20; 16.30; 16.40; 16.50; 16.60; 16.70; 16.80; 16.90; 17.00; 17.10; 17.20; 17.30; 17.40; 17.50; 17.60; 17.70; 17.80; 17.90; 18.00; 18.10; 18.20; 18.30; 18.40; 18.50; 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Worms.—Have a mare, three years old, due to foal some time next January. She appears to be troubled with worms. I would like to know what to give her that will not be harmful.—J. K., New Castle, Pa.—Mix together equal parts of ground gentian and salt and give her 2 tablespoonfuls at a dose in feed, twice a day. Feed her some carrots or roots.

Bursal Swelling.—I have a four-year-old colt that has a hunch on front part of hock joint. This hunch is nearer the outside than inside of hock. I would like to know what is good and what will cure it.—L. W., Blairstown, N. J.—The hunch on hock is very much the nature of a wind gall. If you will apply 1 part red iodine mercury and 10 parts cerate of cantharides you will obtain fairly good results; or, you may apply tincture iodine every day or two. A bursal hunch of this kind seldom does any harm, but is always difficult to reduce.

Enlarged Glands.—Cracked Heels.—I have a horse that is troubled with sore glands. They appear to be very sore to the touch. I am anxious to know what I can do for him. When eating he makes a snoring noise. What will cure scratches in a young colt?—B. M. K., Titusville, Pa.—Give him 1 dr. potassium iodide at a dose in food or water, 2 or 3 times a day. Apply 1 part iodine and 10 parts fresh lard to enlarged glands, 2 or 3 times a week. Apply 1 part oxide of zinc and 4 parts vasoline to sore heels of colt, once a day.

Stocked Legs.—We have a 5-year-old road horse that interfered badly, braining both hind fetlocks. Since changing horseshoes, he does not strike, but his legs seem to stock and both fetlock joints are somewhat thickened.—K. S. T., Harmony, Pa.—Your horse may be slightly out of condition, for no perfectly well horse should stock. Mix together equal parts, by weight, ground gentian, ginger, red cinchona, fenugreek, bicarbonate soda, powdered nitrate of potash and salt. Give him 2 tablespoonfuls at a dose in feed, 2 or 3 times a day. Strong liniment should not be applied to legs that stock, but bandage in cotton batten, leaving bandages on part of time.

Chorea.—I have a 5-year-old mare that seems to be weak in hind quarters. The muscles of corks appear to jerk or twitch considerably. This mare is in foal.—M. A. T., Girard, Pa.—Veterinarians are pretty thoroughly agreed that chorea is an incurable ailment; however, you might try giving her 1 dr. potassium iodide and 1 dr. ground nuxvomica at a dose in soft feed, twice a day.

Lame Cow.—We have a 3-year-old cow that has been lame in left fore leg for the past 10 days. I have examined her foot, found it healthy, not sore, but back of fore leg, between the ankle and knee, is swollen, and I imagine a little tender.—E. F. A., Cory, Pa.—She sprained flexor tendons and will be benefited by keeping her quiet and applying 1 part powdered cantharides and 4 parts fresh lard every week or 10 days. Two days after blister is applied, apply vasoline daily.

Hog Lice.—We have seven shoats that are troubled with lice. I have been treating them for the past five weeks and have failed.—K. W. S., Media, Pa.—At this time of the year it is rather chilly to dip them; therefore, you had better apply an oily mixture. There is none much better than to apply 1 part kerosene and 2 or 3 parts machine oil occasionally. You will find little trouble in making the application if it is done at night. Pour or brush this mixture on center and upper part of body along backbone from root of tail to top of head. Kindly understand that your hog pen should be thoroughly cleaned and disinfected. A five-percent solution of carbolic acid kills lice quickly; therefore, you had better spray stall walls with this lotion, or have it whitewashed, adding carbolic acid to whitewash solution.



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How to Get Better Roads Where You Live

Stuck in the Mud.
The editor of Pennsylvania Farmer has requested me to give a series of articles on country road improvement. The Pennsylvania Farmer wishes you and every one of its readers to know how you, in your own local community, can obtain better roadways. I shall, in this series, describe exactly how every reader can proceed in his particular community if he is "stuck in the mud." In a general way, the formula is very simple. It consists of but one policy—work and talk—in the order named.

Road work may be ever so good; it may even be most economical. If, however, the people of your community do not know the methods whereby good, economical road work may be procured, little benefit results. On the other hand, talk alone obviously cannot produce road improvement. Especially is this the case where talk is indulged in for the sake of the talk rather than for helpful effect. There must be a combination of working and talking; the two must fit in together. If you will adopt this road improvement formula of "work and talk," in the order named, road improvement in your local community is bound to result. I know, for I learned the formula in 1907 from Mr. P. B. Shaw, of Lycoming county, Pa. This man, many years ago, when I was "stuck in the mud" in Lancaster county, passed his formula to me. By its adoption, the formerly impassable and dangerous township roadways of my home township were transformed into safe, well-drained and firm boulevards.

In this series of articles my effort shall be to show the thousands of country doctors, the country ministers and the country merchants, as well as the farmers, how they can utilize any of these methods which I shall describe. In many communities there are city-bred men who live in the country surrounded by miserable road conditions. Many of them do not know what to do to improve their road affairs. There are likewise many farmers possessing automobiles who, during many months of the year, are practically tied, bound and gagged insofar as their ability to use the soft and neglected country roads is concerned. To these classes of rural people this series of road improvement articles is addressed. For what I, as an unimportant taxpayer in the beginning, have done in my own community towards road betterment, every reader of Pennsylvania Farmer can likewise do in his community—each man according to his strength and persistence. The most necessary quality lies in keeping everlastingly at it.

Road machinery, such as road graders, plows, steam rollers, stone crushers, gasoline engines, road drags, etc., and all the various other road-making paraphernalia are of little avail in obtaining actual country road improvement unless there is "a man

By DR. DONALD McCASKEY, Lancaster Co., Pa.

which would transform a miserably neglected network of undrained township roads into well-cared-for boulevards for such a maintenance figure for the first year as \$30 per mile. Neither did I believe that it was possible to maintain country roads for \$12 a mile the second year, and \$5 a mile for the third year. However, the facts will speak for themselves.



A STRETCH OF COUNTRY ROAD IN LANCASTER COUNTY, ONE-FOURTH MILE FROM A SPROUL STATE HIGHWAY, AS IT APPEARED BEFORE BEING DRAGGED.



THE SAME LANCASTER COUNTY EARTH ROAD AFTER DR. McCASKEY PERSUADED THE TOWNSHIP AUTHORITIES TO PATROL AND DRAG THEIR ROADS.

ship, in Lancaster county, was pulled "out of the mud" for \$30 a mile the first year, \$12 a mile the second year, and \$5 a mile the third year. Before I began my work, I, too, was "from Missouri." I did not believe there could be any road system devised

There are many varieties of people in every local country community. Each one of our township communities is comprised of a huge jumble of good, bad and indifferent citizens. None have a citizenship of 100 percent efficiency. Many of these citizens might be classed as the "chain warmer" variety, whose chief occupation is to discuss the various current topics of the day around the country store. Another type includes the peaceful, hard-working farmer, who, while recognizing the defects in the local administration of road affairs, yet does not feel sufficiently courageous to venture forth and antagonize the local "stuck-in-the-mud" powers-that-be.

Another type of citizen that must be reckoned with in the solution of our country road problems is the old-style grasping political road-maker. I should term him "a barnacle." His dominating power lies in his ability to hold fast to the road system in the community where he obtains his support. And there is still another general type including the citizen who quietly thinks for himself, irrespective of any political road ring. Oftentimes he goes to the polls on election day and votes for the best candidate, in his judgment, for township supervisor. If this type of country citizen would only go to the polls at every election, better results would occur. Each of these various citizen types must be dealt with, for each has been "stuck in the mud," and each is eager to get out.

In 1898, driving my little automobile, axle-deep, thru the mud one day, I stuck fast. A group of township farmers, closely identified with local political machinery, sat on the rail fence and enjoyed the spectacle of me digging my automobile out of the mud. They had been accustomed to considering that country road conditions were hopeless. According to their experience and ideas, road improvement consisted of "working" the roads once a year. This was in June and July, when a general road jollification would be held. The sarcastic remarks of my country friends on the fence stirred within me the resolution to tackle the job and do my part towards obtaining respectable country roads in my township. All efforts had positively failed to induce our local road officials to take an active interest in their jobs or to efficiently perform their duty.

In desperation I procured a King Drag and started

ed to work. I drove the drag myself. My wife grew so interested that she helped me by standing on the front slab to make the drag cut better. Things began to grow serious in the camp of the legal road officials. To them, my King Drag effort was a wild-eyed attempt of an upstart, whereas it was merely the move of a citizen utterly sick and tired of a neglectful, do-nothing policy. A boycott on my work was even engineered. When I needed an extra horse to drive my drag, no farmer would rent me a horse. The road "barnacles" had begun to talk up a threat of a legal suit against my operating the road drag. The farmers had become frightened at the prospect of a legal fight and they did not wish to become mixed up in any antagonism with the local township powers-that-be. Finally a local undertaker broke the boycott when I offered him 35 cents per hour for his team. He was a Democrat not in sympathy with or in fear of the local road officials. (Our township was almost solidly Republican.)

Amid much difficulty, my efforts at dragging had at last transformed, after 17 hours of hard labor, my road section into a fairly safe boulevard. It was an object lesson in road respectability to the community. At this time a legal injunction was served upon me by one of our Lancaster courts, restraining me from further use of the King Road Drag upon our local country roadways. This made the local road politicians chuckle even tho they did not recognize that in reality they themselves were gradually becoming the laughing stock of the community. For my King Drag work I had paid my own expenses, while they had prosecuted me at the expense of the township. Then came a further fight for a "do-something" road policy.

Being put off the public road on a technical legal order from the court after I had transformed it into the finest road ever seen in our township at my own expense, and being the butt of the expressed hatred of our local road officials for daring to take them to task for their indifference I announced my candidacy for the office of township road supervisor. At the polls on election day I was decisively defeated. The "rounders," which exist in every community, had demonstrated their power. But the next year, when election came around, I ran again, and after the biggest, toughest fight in our peaceful township for over a decade, I was finally elected.

Once on the supervisor board, a policy of underground drainage and the removal of breakers was started. Many obstacles, of course, occurred during the process of getting all these things into working shape. Not among the least was the fact that I was the minority member on the supervisor board of three. Whenever I wished to secure the passage of a particularly effective and economical road improvement measure, my two colleagues would vote me down. The only way I could feel sure of securing the passage of any measure different from the traditional ones was by inviting groups of local tax-payers to attend our supervisor meetings. This made the latter a public rather than a private and secret "behind-the-doors" affair. There were a thousand and one similar handicaps which I experienced during my six years' connection with local road improvement work. Success means knowing how to deal with the township "political bully," the "dog-in-the-manger," the selfish knocker, and other types of citizens which must be dealt with by every one who undertakes the activities of public life in the effort to better his own local road conditions.

The key to permanent road success in any community must depend upon a

road patrol system. No road system can be of lasting benefit unless the work is for all the roads. Stone roads should only be built as money will permit; the country earth roads comprise over 90 percent of our Pennsylvania roadways. The road drag patrol system introduced so successfully in my own community can be adopted in your own and in all other communities. I firmly believe in following the policy of our great Pennsylvania Railroad, which, once each year, holds a road inspection. The P. R. R. offers prizes for the best road section along the entire 12,000 miles of its lines. It is only by regular and systematic care of our roads with the money we actually have in hand that we can pull ourselves "out of the mud."

Note.—This is the first of a series of articles telling how a township road patrol system was successfully inaugurated. As the series proceeds, we will be glad to have questions from readers on local road problems. The prosperity and general contentment of the farmer depends not only on knowing how to grow wheat, corn and cattle, but in being able to get about safely, quickly and economically to enjoy the pleasures and stimulus of a closer social companionship of the neighborhood at large. We need a popular sentiment among farmers that will induce our local township road officials to study their responsibilities and become more proficient at their road jobs. The Pennsylvania Farmer stands ready to help on these problems.—The Editors.

THE NEXT STEP IN POTATO CULTURE.

With the average potato crop production so low in nearly all parts of the



THE COUNTRY DOCTOR'S AUTOVIOLE AND THE TOOLS NECESSARY FOR ROAD TRAVEL BEFORE HE SECURED SYSTEMATIC ROAD PATROL.

country, the next step would seem to be very close to the starting point. But assuming that certain fundamentals are recognized, if not observed, there is a step to which I would direct the attention of growers everywhere. Looking over the order book of a leading potato seed company, I was struck by the variety of instructions given by would-be buyers. The most simply ordered potatoes of a certain variety, but many specified that they should be "large," "small," or "medium." Not one named the weight by ounces, and one or two asked for second-class stock. Like a grower I know who bought the culls of a big crop to plant his 20-acre field, these men evidently think a potato is a potato, no matter how or where grown, and fail to see that vigor or yield bears any relation to reproduction.

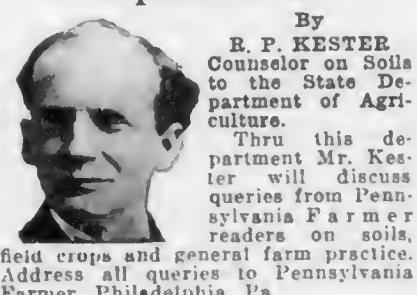
Watching the almost automatic working of an apple grader running over one hundred barrels a day, and sorting to one-fourth of an inch, the question forced itself at once—why not the same for potatoes? Why not grade our seed to four to six ounces, six to eight, eight to twelve, and twelve and over? Then one can order just the size he wants and be sure of practical uniformity in the seed. Such a step would accrue to the profit of seedman and grower, and ultimately insure, what today is impossible in potato growing, a fairly uniform crop. Already there are signs that point to a demand from consumers for medium-sized potatoes, those ranging from five to nine ounces, and growers must be alive to the importance of eliminating the overgrown as well as minimizing the undersized specimens. It will take time to do this, but he who attempts it will certainly secure a greater yield, and a crop of higher cash value.

Some time we will go further and insist on trueness to type, but before that is reached the question of type must be thoroughly threshed out and a consensus of opinion found as to what constitutes type. It is time for the farmers of Pennsylvania to be placing their orders for seed, and naturally they will look to the North. The whole practice is wrong. Every man should critically grow and select his own seed, but until aroused to that step the only thing to do is to get in touch with seed growers or dealers and require a guarantee that all seed shipped is, first of all, true to name. Growers have been sadly beaten in the past in this matter, until they believe that all white varieties are dumped together and simply the reds put by themselves. Only in

tremendous waste of time, energy and strength is the heaviest burden resting on the average farmer, and this explains why the average production of Pennsylvania is below one hundred bushels per acre. It ought to be, might be, must be, twice to three times as much, and will be when simple laws for protection are rigidly enforced by growers.

Buy good seed, true to name. Buy seed medium in size. The waste with large seed is frightful. Buy only of growers or seedsmen who will guarantee these essentials and be prepared to insist next year on graded stock. Stick to tried varieties, known to be adapted to your locality and soil; also to those noted as heavy yielders. Buy only such seed as is guaranteed to have given a yield of at least 250 bushels per acre in 1913. The tendency to revert can only be overcome thru critical seed selection, coupled with good treatment in the ground. These are simple rules, but the whole problem of success or failure hinges right here.—Dr. G. M. Twitchell, Androsoggin Co., Me.

Farm Counselor Department



field crops and general farm practice. Address all queries to Pennsylvania Farmer, Philadelphia, Pa.

INSTITUTE NOTES.

Rome, Athens, Troy, Canton—what historical memories are conjured up at the mention of these names! Yet it is not the noted Eastern cities I have in mind, but places of that name in the far-famed dairy county of Bradford, in Pennsylvania. For generations the leading business of this county has been the production of milk and butter. It is evident that in the six years between this and a previous visit to the county, there has been a decided improvement in farm and dairy management. At that time, many practiced summer dairying. The cows were so managed as to freshen in the spring of the year, turned to pasture and allowed to go dry in fall, and get their winter living largely from corn stover and the straw stack. A great deal of hay was sold, not much feed was purchased, and the farms suffered accordingly. Now, winter dairying, as well as summer dairying, is practiced by most farmers, and the farms show the benefits.

It can be said that there is a greater portion of the farmers endeavoring to improve their herds and feed economically than in almost any other country. Along the line of the Lehigh Valley, which hauls great trainloads of milk into New York City, milk production is the industry, and the Holstein cattle are kept. Some fine, high-producing herds are found. In other sections, farther from shipping points, butter-making is followed, and many fine herds of Jerseys are found. There are numerous creameries in the county.

A great deal of milk is bought by a condensed milk company. If the dairymen in southeastern Pennsylvania, who buy all their cows, could see the cows here, they would learn that they do not get the cream of the northern herds by a long ways, and they might be encouraged to give more attention to breeding of dairy cattle.

If a visitor might be allowed to offer a couple of suggestions, I would protest

against the practice which many have of throwing the manure out under the barn eaves, there to heat and leach. Another suggestion would be to give more attention to keeping up the permanent pastures. Much of this county has land better adapted to grazing than to cultivation. The right care of the pasture fields would increase several times over their forage product. Silage, mixed hay and corn stover are the materials mostly used for roughage. Cottonseed meal, gluten, bran and brewers' grains are purchased for concentrates.

The surface of Bradford county is quite broken; hilly in most places. The soil is mostly of the volusia type. Unlike most places, the wettest fields are on the hill sides. This is because there is a hardpan not far from the surface, running with the slope of the hill in many places. Bradford county is ahead of many other counties in its interest in the public schools. Rural high schools, centralized schools, and the teaching of agriculture are all popular here, and advance is being made.

What an institute man notices and appreciates more than any other in a community is the character and habits of the people, and it is but justice to state that the courtesy, attention and behaviour of Bradford county audiences, both old and young, are beyond the ordinary. One thing needed here, and is the crying need of every dairy community, is better prices. However much the consumer may complain about the prices of milk and butter, the fact remains that those who produce these products do a great deal of work for a little profit.

The Egg Boycott. Lester Myers, sixteen years old, of York township, is the champion boy corn grower of York county for 1913. His record of 125.36 bushels to the acre, reported at a recent meeting of the corn contest committee, is better than can be produced by many an older and more experienced farmer of the county, altho falling somewhat short of the 136 bushels to an acre which

things too numerous to mention, and not attempt to start at the over-worked and under-paid American hen.

Land Plaster in Stables.

A. R. O., Bradford county, asks whether land plaster is the best thing he could use as an absorbent in his stables. No, it is not. Acid phosphate is much better, for several reasons. It will retard fermentation and loss of ammonia much better and at the same time add the plant food that is most lacking in manure, phosphoric acid. Careful experiment has shown that the addition of 25 cents' worth of acid phosphate to one dollar's worth of manure increases its manurial value to two dollars.

Greened Potatoes.

F. G. N., Erie county, writes: "Will you kindly answer in the columns of Pennsylvania Farmer if potatoes that are sun-burned (turned green) will make good seed potatoes, or not?"

The fact that the potatoes have turned green will not hurt them for seed, provided they are solid. If the sun was hot enough to soften them by partial cooking, they are not fit for seed. Keep them in a cool, dark place and put them out in the light in a thin layer a few days before planting, and you will likely find that they will put out short, stubby sprouts. Many practice this plan of greening and sprouting seed potatoes to hasten growth.—R. P. K.

YORK COUNTY CORN CONTEST.

Record Yield of 125.36 Bushels Per Acre

Lester Myers, sixteen years old, of York township, is the champion boy corn grower of York county for 1913. His record of 125.36 bushels to the acre, reported at a recent meeting of the corn contest committee, is better than can be produced by many an older and more experienced farmer of the county, altho falling somewhat short of the 136 bushels to an acre which

bus.; twelfth, Roy Hake, Spring Grove, 83.57 bus.; thirteenth, Norman J. Shearer, Brodbeck's, 80.5 bus.; fourteenth, W. H. Grim, Red Lion, 78.9 bus.; fifteenth, Clarence Kornbau, York, 74.5 bus.; sixteenth, Clarence Fink, York, 65 bus.

The awards, made from a total fund of \$128.90, and on a basis of 20 percent to the first, 15 percent to the second, 10 percent to the third, 5 percent to the next six, were, first, \$25.78; second, \$19.33; third, \$12.89; fourth, fifth, sixth, seventh, eighth, and ninth, \$6.44 each. Under the rules, each of the other contestants received \$1, leaving a balance of about \$25 in the fund for next year. The ages of the boys who competed in the contest averaged about sixteen years. The youngest was Samuel Zinn, of Spring Grove, fourteen years, who stood seventh, while the oldest was Ralph G. Beck, nineteen, who was second in position.

Each of the boys brought to the Court House 10 ears of corn, the pick of his crop. These were tied together and labeled for exhibition at the Teachers' Institute. Some of them will later probably be entered in the corn contests at State College. Professor Franklin Menges, chairman of the committee, also urged the boys to exhibit at the State Corn Show to be held in York next January in connection with the conventions of several of the state's agricultural associations.

A. L. Martin, deputy state secretary of agriculture, was an interested spectator, and spoke briefly. He said he had come for the purpose of learning how York county's corn contests were conducted in order that such of the methods as are deemed advisable may be applied to a state contest which the department has in view, and may be perfected next year. The idea, as yet not entirely formed, he said, is to have the several boy winners in the corn contests in each county compete in a state contest for prizes to be secured by contributions, there being no state fund available for the purpose. Secretary

G. W. Welsh, Spring Grove, was chairman, had much difficulty in getting the correct figures from some of the reports this year.

The list of contributors to the prize fund this year was announced as follows: Hon. A. B. Farquhar, \$20; First National Bank, York, \$10; York Trust Company, \$5; Samuel Small, \$5; Red Lion Farmers' Club, \$20; Farmers and Merchants' Bank, Red Lion, \$5; First National Bank, Red Lion, \$5; Farmers' Club, Hellam, \$5; Dovers National Bank, \$5; Manchester Grange, \$5; Glen Rock National Bank, \$5; Loganville Farmers' Club, \$6; Professor Charles W. Stine, county superintendent of public schools, \$5; Rev. G. W. Welsh, Spring Grove, \$5.—Prof. Franklin Menges, York Co., Pa.

ALFALFA IN NEW JERSEY.

The interest in alfalfa culture in this state is highly pleasing to the members of the State Board of Agriculture. Franklin Dye, the honored secretary of that body, makes the following statement: "We have issued bulletins, which can be had by anyone, stating some essentials in connection with the production of alfalfa. In New Jersey its production is extending from year to year. The acreage is up in the thousands now and where properly cared for and in suitable soil it is grown successfully in any part of the state. We have grown it under direction of our experiment station on the sandy soils at Hammononton, and I have a field of it growing beautifully on the sandy and gravel lands of Ocean county. At the experiment station at New Brunswick it has been grown for years with splendid success."

"It produces usually three crops a year, is most valuable feeding material for all farm stock, particularly cows and horses, being rich in protein, that essential element in milk production. Its production has passed beyond



FUTURE YORK COUNTY FARMERS. WINNERS IN THE YORK COUNTY BOYS' CORN GROWING CONTEST FOR 1913.

their madness. But when we know that but comparatively few eggs are being laid and that the average flock of hens is not paying for its keep this fall while the demand for strictly fresh eggs is beyond the supply, it seems like fighting windmills or a flashy attempt to gain some newspaper notoriety.

A thicker slice might be cut from the high cost of living by reducing the number of theatre parties in some families, or foregoing the expense of some valuable poodles, diamonds, sealskin suits, wine or enchire parties and other

topped last year's contest. The names of the other fifteen contestants and their records follow: Second, Ralph G. Beck, York, 123.43 bus.; third, Charles Sterner, York, 122.4 bus.; fourth, Harry Miller, Spring Grove, 114.32 bus.; fifth, J. V. Swartz, 111.89 bus.; sixth, Harry Stump, Springvale, 107.5 bus.; seventh, Samuel Zinn, Spring Grove, 107.43 bus.; eighth, Noah Shearer, York, 105.25 bus.; ninth, Solomon L. Hake, Spring Grove, 105.36 bus.; tenth, Casper Hoke, Spring Grove, 96.1 bus.; eleventh, John Gross, York, 83.91

tary Martin highly praised the boys for the showing they had made. "You are growing the biggest corn and the most corn to the acre of any county in the state," he said, "altho some other counties are growing more symmetrical ears. I would suggest that along with size and yield you exercise equal care in growing for symmetry."

The committee decided to have blanks printed for use of the judges next year in order that just such facts and figures as are desired may be set down. The committee on awards, of which the Rev.

the experimental stage as a proper production for every farmer who wishes to grow it. It must, of course, be an experiment so far as the first stages of the work are concerned. It is highly advisable for New Jersey farmers, especially those who have farm stock, to raise alfalfa. It is a soil improver; it gets nitrogen from the air, and, as I have stated, it is rich in protein. Our experiment station and its director, Dr. J. G. Lipman, have given a great deal of attention to the alfalfa question.—D. T. H.

Horticulture

WIND-BREAKS.

In much of the orchard planting which has been done during this and other years, one of the main points in the selection of the site seems to have been altitude. As a result, we see most orchards planted on the very crest of the highest hills. The result of last winter in many of these orchards proved that there is such a thing as overdoing altitude, and that in some cases it is better to put the orchard on a lower level and avoid many of the dangers which are incidental to great altitude.

In some fruit sections last winter there was considerable winter injury, and much of this injury can be explained by the fact that a large majority of the trees injured were planted high above the surrounding land, exposed to the wintry blasts. Such a site favors increased evaporation since the winds are usually higher and more intense and the tree is exposed to them at a time when too great evaporation may mean injury. It has long been known that there is water being evaporated from the twigs and branches of trees all during the winter, and if this evaporation goes beyond a certain point the cell content is disturbed, and as a result we have what is commonly called winter injury. In other words, water is being lost to the plant tissue at a time when the roots are inactive and cannot replace the deficiency. This is why the injury is more commonly seen during winters in which there are frequent warm spells followed by colder ones. When the warm weather comes the roots become temporarily active and sap, a large part of which is composed of water, is pumped up to the branches. When the temperature reaches freezing again a great deal of this newly-acquired water is evaporated and the plant tissue is injured.

The important point then is to place the tree in such a place that it will have the advantages of high altitude, which means good air drainage, but at the same time that it will not be exposed to high winds, which means quick evaporation. The best means of accomplishing this is to provide the orchard with a wind-break.

Wind-breaks should be planted with care and judgment, since they often become a hindrance instead of a help in places where they are wrongly planted. The one great drawback to them is the fact that unless watched very closely, they may become a breeding place for dangerous insects; but if care is exercised in this direction, the good effects of them will overbalance this point. That is, if the orchard is regularly and intelligently sprayed, the insect problem is not an economically serious one.

Wind-breaks should contain both evergreen and deciduous trees. The object is not to stop the wind, since that would be almost as harmful as having too much, but it is simply to check it so that the force will be broken by the time it reaches the trees. To this end, the evergreens will check the wind during the winter and the deciduous ones will help during the summer. Aside from this point, the break made from the mixed types of trees will be more efficient than the one composed of all evergreens, altho the latter will check the winds both during winter and summer.

The spruces are probably the most common evergreen trees that are used for this purpose, because they are comparatively quick growers and make a

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good growth on a wide range of soils. Among the deciduous trees the maples and the birches lead, and both do well under varying conditions. The trees are planted closer at first than they are wanted, so that an immediate effect can be gotten, and as soon as they begin to grow or to make the break too dense, enough are taken out so that the break will not be a barrier.

The illustration shows a pine wind-break which was started last year on ground which will be planted to apples this fall. As will be noted,



A NEW PLANTED PINE WINDBREAK.

the trees are planted very close and probably half of them will be taken out in the course of a few years. Next spring birches will be planted in with these pines, at which time the pines will be able to stand the shade of the birches.

Illustration No. 2 shows a mistake that is commonly made in the planting of wind-breaks; that is, planting the fruit trees too close to the break. When this error is made, it is probable that there will be trouble with frost, since the area adjoining the break is free from great air motion and hence invit-



A DENSE WINDBREAK PLANTED MUCH TOO CLOSE TO ORCHARD ROW.

ing to frosts. The break should not be placed closer than 150 to 200 feet to the fruit trees, and when a greater distance than this is possible it is to be advised.

When properly placed, the wind-break can be one of the greatest assets the fruit grower can have. This fact is just being realized, and has been brought to light by the large amount of injury incident to exposed and unprotected orchard sites.—L. Wayne Army, Cornell University.

PREPARATION OF YOUNG ORCHARD TREES FOR WINTER.

The preparation of the young orchard trees for winter is a very important phase of orchard management. If the grower will examine the trees carefully

after the fall rains have fallen, he will find that many of the trees, especially those planted in clay soils, have been swayed or rotated by the wind while the soil was wet and that there has been a "pocket" formed in the soil about the stem of the tree. Oftentimes this pocket may be several inches deep. When the hard-freezing weather comes on, this hole about the trees fills up with water and freezes a solid cake of ice about the tree. The formation of these ice crystals in and about the base or crown of the tree very fre-

quently causes the winter-killing of young trees by the bursting of the cambium and bark of the trees at their base. This physical injury is locally known as "crown bursting." It may be prevented by going thru the young orchards just before heavy freezing weather occurs and mounding up the earth about the trees to a height of 10 or 12 inches. Care should be taken in doing this mounding not to use the soil from near the tree and to take it from the slope below the tree on hilly or rolling land so that water which col-

lects may drain away from the roots of the trees. Another important phase of winter management is the protection of the young trees from mice and rabbits. The mounding of the trees as above referred to is generally sufficient protection from mice if all the organic matter is kept a foot or two from the base of tree. However, in the sod mule method of orchard management, it is practically impossible to mound up the soil about the base of the trees, and it is also not practical to keep the organic matter far enough away to prevent some injury. Under these conditions absolute protection is necessary. The best means for securing this protection is to secure galvanized hardware cloth, 18 inches wide, having either 3 or 4 meshes to the square inch, and cut it in lengths of about 14 inches.

For whips the first year planted the writer has found 18-inch glazed manilla paper of heavy quality an economic, efficient protection from rabbits. The paper may be cut in lengths of about 12 inches and rolled into protectors about 1 1/2 inches in diameter, which should be securely tied in two places with a hard twine. These paper protectors may be made up indoors during inclement weather and placed upon the trees when needed. They must be removed in the spring time.

Another means of securing protection from rabbits has been to paint the trunks of the trees with a concentrate solution of lime and sulphur tainted with a liberal quantity of whale oil or fish oil soap. During the first two winters this solution may be quickly applied to the entire tree with good hair whitewash brushes, thus serving as a dormant spraying for the trees. After a season of very heavy rainfall the trunks of the trees may have to be treated a second time if the rabbits are numerous. Not the least effective means of securing freedom from rabbit injury is to clean up all the litter such as old brush piles and grown-up fence rows and follow that with a few systematic rabbit hunts over the parts of the plantation where "bunny" is likely to have established his winter quarters. Box trapping of rabbits is now permitted by law in Pennsylvania, and it is an effective method for exterminating this pest in the fruit plantation.—J. A. Runk, Huntingdon Co., Pa.

SUSQUEHANNA COUNTY HORTICULTURAL ASSOCIATION MEETS

The Susquehanna County Horticultural Association held its second annual meeting at Montrose December 4-5. This meeting was such a success that much is to be predicted for the association and its work in the future. Special importance is to be attached to the work of this organization since all factors favor development of this as one of the strongest fruit-growing regions in the state, and with the proper spirit behind the movement Susquehanna may become a second Adams county. Not only are the natural advantages great in this county for fruit growing, but there is another incentive for the prospective fruit grower, and that is the cheapness of the land. Good fruit land can be had in abundance in that region

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for as low as \$10 to \$50 per acre, depending on the nearness or remoteness to the railroads. This situation is rapidly being realized by the growers there so that there is now a widespread interest in fruit growing and the last meeting helped to strengthen this horticultural interest. The fact that the men who are now growing fruit in that region are producing apples second to none in the country leaves no question as to the adaptation of the soil and the climate for that purpose.

Western vs. Eastern Fruit.—Mr. Smith, a Washington fruit grower, gave an interesting and instructive talk on "Fruit Growing in Washington." He pointed out the fact that many of the western growers are men who have gotten their training in other lines of business and have profited thereby in that they are able to manage their fruit farms along the same sound business lines which bring success in the factory or bank. These men also have a wider view of things in general and are not limited in their experiences to the boundary lines of their respective farms. While reports indicate that all of the fruit farms in the west are successful, there are probably just as many failures in that section as there are in the east. In many sections of the west land values are as high as \$3,000 per acre; not because of any great superiority of the soil or climate, but simply because the particular section in question has made a reputation for fruit production. Real estate speculation has played a large part in establishing land values in the great fruit areas. The west surpasses the east in orchard management in that most of the sections are specialized according to the crops which they can grow best. That is, there are sections which grow nothing but apples, others which produce small fruits exclusively, etc. In most of these small fruit sections the average farm is only two acres, but in many cases these yield an income of \$1,100 per acre.

Co-operation.—Co-operation forms the basis of success regardless of the section, and has been the keynote all thru the west. To make this more perfect, the growers in most sections are not allowed to pack their own fruit, since there are so few who are honest enough to pack according to the strict standards of these co-operative associations. High-priced management, wise and extensive advertising, and the work which is necessary to produce clean fruit have been the most important factors in bringing about the success of the west. All apples are box-packed, and in fact, it is hard to find a barrel of apples in the west, altho the wisdom of this practice may be questioned. One noticeable fact in connection with the quality of the apples marketed is that no cider is produced, since there are no cider apples grown. The matter of sorting apples has come to such a fine point that they are now graded according to the market in which the fruit is to be sold. For instance, it is known that the German markets, notably Hamburg, want an apple with some yellow coloring, while England buys the highest colored fruit which is obtainable, and the fruit is sorted accordingly. The railroads have done much to advertise the western fruit sections.

Middleman's Profits.—Mr. Dean presented a very interesting account of his efforts to trace thru the irregularities of the commission business. Mr. Dean is an apple operator and has had wide experience in buying and selling produce, having dealt with leading commission men in New York, Philadelphia, Scranton and some western cities. His efforts to trace any irregularities were made by consigning shipments to these men and then going on the mar-

kets under an assumed name and buying his own shipments. By comparing the price which he paid with that which is returned by the merchant, he has obtained most interesting information as to the underworkings of this commission "game." According to Mr. Dean's records, he has never received full price for his shipments from any merchant, and his list includes the names of many of the most prominent commission men in the cities named above. The excess taxation levied by these men has averaged 10 percent of the total value of the shipments, and Mr. Dean believes that 90 percent of the growers who consign their shipments to men in the cities are paying this heavy toll. Mr. Finn, county agent for Susquehanna county, outlined the horticultural needs of the county, and pointed out the great possibilities of the county as a fruit-growing one. He advised prospective growers to locate about or near Brooklyn.

The general success of this meeting indicates clearly the interest along fruit lines in this county, and the possibilities of such efforts.—L. W. A.

CHRISTMAS TREES FOR PROFIT.

One of Cleveland's most progressive vegetable and greenhouse men has a novel method of utilizing a piece of land on a slope which could hardly be used for any ordinary crop owing to the difficulty which would be encountered in the matter of cultivation. On this slope the grower in question has planted evergreen trees, which, when they get to proper size, are sold to the Christmas trade for Christmas trees. By this method a piece of land which might otherwise be barren and unfruitful, and which might also present an unsightly appearance, due to the washing of the soil, is given a pretty landscape effect and becomes also a source of profit to the owner.

We believe this idea is worth copying. There is always a demand for Christmas trees in season, and with an average price of a dollar a tree, the comparatively small amount of labor involved in setting out the trees would be amply compensated for. There is the additional consideration also that many otherwise waste pieces of land might find employment.

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The Dairy

TWENTY COWS ON THIRTY ACRES.

Yes, it can, and is being done. But the land must be in a high state of cultivation. Any farm of thirty acres, even if in a run-down condition, can be gradually brought to the twenty-cow producing mark by starting with eight or ten cows and gradually increasing the herd as the production of the acres increases. In fact, twenty cows is not the limit for thirty acres, as the writer is confident that a cow can be profitably maintained on each acre of good producing land. The farmer who wishes to profitably maintain a herd of twenty cows on thirty acres must be far-sighted or else he may find his herd short on roughage at some season of the year when it is greatly needed.

In planning for the maintenance of a herd of twenty cows on thirty acres, it is not only out of the question to think of pasturing them, but entirely too expensive a method. Therefore, the cows should be stabled in a good sanitary barn and have the use of a good-sized lot for exercise when weather conditions are favorable. All green foods or roughage should be hauled to, and fed in the barn. Assuming that we are starting in the spring of year, we would plan on planting from ten to twelve acres to corn, all of which would be used in filling the silos. Ten acres would be in grass for hay; two crops, under favorable season conditions, should be procured. Half of the previous year's corn ground has been sown to wheat or rye, so that we now have about five acres of wheat or rye, which can either be fed green to cows in spring or else cut for straw, etc.

This leaves us with three to five acres for soiling purposes, which should produce us several crops during the season, and should be cropped about as follows: One-half of the plot to be sown to Canada field peas and oats in three sowings—very early, medium and very late. The other half to be sown to corn in three sowings. As fast as the peas and oats ground is cleared it should be disked and sown to Dwarf Essex rape, while as fast as the corn ground is cleared it can be sown to either wheat or rye for next spring's feedings.

We now have our plans made for cropping for the season, and as soon as our wheat or rye is ready for feeding green, we will feed those while tender and save our ensilage, unless we feel we have a surplus. After wheat or rye shoots head it soon becomes too tough or woody for good feeding. We then use our ensilage until our first cutting of Canada peas and oats is ready, which should then keep us well supplied with a ration for the season, namely, three ages of peas and oats, three ages of corn, followed by Dwarf Essex rape; then onto ensilage for the winter. The wheat ground in August has been sown to clover for next year's hay, and half of corn stalks to wheat. The other half of corn field should have a good set of rape or crimson clover, etc., for winter, and to be turned down next spring for corn.

We now have our cows on winter rations of ensilage, morning and night, with a light feed of hay or corn fodder at noon. As little, or no bedding material has been raised, we find corn fodder bought and cut makes the best bedding and absorbent. Shavings are a good absorbent, but a poor fertilizer. Raw rock or acid phosphate should be used on manures, and the manure should be carted and spread on fields daily if

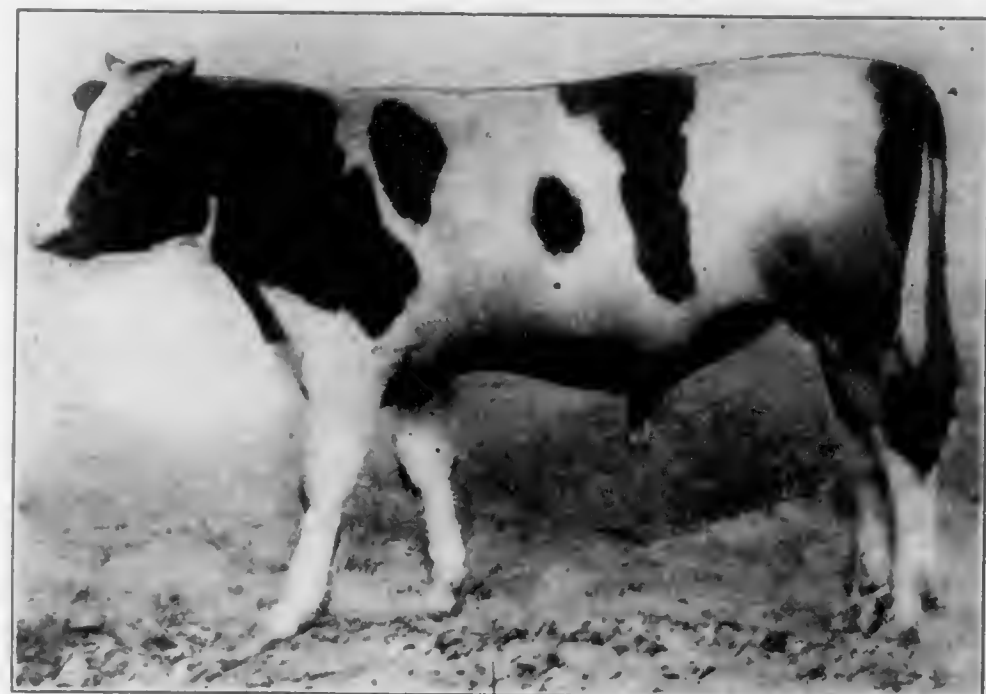
possible, or kept under shed until convenient.

As all grains must be purchased, we can buy feeds high in protein, as with ensilage we need little or no corn. Many changes can be made in soiling, as alfalfa may be sown and fed green to cows, as well as any of the hay crops, etc. Any crops in surplus should be cut for hay, while when short on soiling crops, the silo should be held in reserve. Many will claim it does not pay to buy your grains, but as long as your cows are profit-producers you are yearly increasing the producing quality of your land and will need little or no extra fertilizers. At the same time you are making a good profit with less investment in land, and, as you have less acreage, you can give it better attention with less labor and do away with the unprofitable crops and fences used in the regular rotations of general farming.—Charles H. Sweigart, Chester Co., Pa.

THE MILK SITUATION.

(Concluded from last week.)

New York City is not alone in making a fight for better and purer milk. Philadelphia is running her a close race, as is nearly every other city in the country. A series of lectures on the handling and pasteurization of milk was given early this summer by the Philadelphia Bureau of Health to the milk



KING PIETERTJE WALKER
Owned by Sweigart and

dealers of that city. That was the first time since the milk supply has been recognized as a source of disease and a potential factor in the health of a community that a city has acted as instructor and opened its bacteriological laboratories to the men who handle the milk supply.

One remark in particular deserves special mention. It was made by Philadelphia's chief bacteriologist, Dr. C. Y. White, who referred to an epidemic of diphtheria at Hightstown, N. J., several years ago, when 28 cases and 11 deaths were traced to a boy living on a farm of one of the dairymen who supplied the place with its milk. Said Dr. White: "Four diseases are traceable to the milk supply—typhoid fever, tuberculosis, scarlet fever and diphtheria. Tuberculosis may come directly from an infected cow, but a cow never has typhoid fever. Therefore, the germ of this disease must be implanted in the milk by some one who handles it, who is infected, or in some way connected with a sufferer from the disease. The United States government, in an investigation, discovered in one year 179 epidemics of typhoid fever traceable to the milk supply, and discovered that 113 of these were due to some one who had handled the fluid. Fifty-one epi-

demics of scarlet fever have been traced by the government to the same source, and diphtheria is admitted, in a great percentage of the cases, to originate with the milk supply."

Newark, the largest city in New Jersey, has adopted a score card for all bottling plants, whose milk is sold within the city limits, no matter whether these bottling plants are located on the farm of the producer or in Newark or some other municipality. This score card, like that for dairies proper, is simply a numerical expression of the exact condition of the bottling plant that is scored.

It is a matter of record, I believe, where such extraordinary precautions are taken to safeguard the health of the people, and where the milk is properly graded and labeled, that it sells according to the mark, etc. But as we have seen, the producer must sell for the price established by the receivers, regardless of the quality of his milk, or of the care with which it is produced. The extra price goes to the bottler, or whomsoever the middleman may be, and he has no extra trouble, even in the handling of the best and highest-priced milk. As I stated before, there must be organization before the dairymen can assert his rights in this respect.

Relative to municipal inspections, the International Association's endorsement has been qualified in an objection to the application of punitive measures for

various, with the state inspectors scoring much lower than the local authorities. This indicates something, and many hint that the work of the local men shows favoritism, if it does not indicate that lack of system and exactness required in all complete investigations for the public good.

The state can cover the whole territory, while the local inspectors only get at the creameries and dairies supplying the milk to a certain municipality. The remote dairies and those not known to the local men because of their supplying the creameries, are not examined, and in just such dairies as these, the germs of typhoid fever are likely to be lurking. The state gets at all the dairies, or could if given the full measure of money needed for this exact work, and in this way the problem becomes a broad state one, which no amount of good work upon the part of local inspectors can do. Those who have studied the problem are unanimous in the belief that the money for complete inspection by the state of all creameries and dairies, at least four times a year, should be given to the State Board of Health.

In our own State of New Jersey, the chief inspector of the division of dairies and creameries of the State Board of Health has adopted a policy of "pitiless publicity." He took this action because it was deemed that wider knowledge should be had of dairy affairs and their effect upon the public health. The State Board of Health now requires a thorough disinfection of all dairy premises where there has been even the slightest trace or suspicion of bovine tuberculosis. This work is done by the inspectors of the dairy division. The state is also trying to break up the practice of rushing off the morning's milk to market without cooling. The old idea that straining milk made it clean was dealt a blow by the chief inspector when he said: "Clean milk requires very little straining. Straining removes the coarser particles of dirt only, but by no means eliminates the fine or microscopic dirt. Purity in production is the only thing, and that the state demands."

The force of but five state inspectors in New Jersey is entirely inadequate when it is considered that there are 10,000 milk-producing farms. This means 2,000 inspections per year, per man, or 623 farms per man per day, despite this handicap, 50 dairymen were stopped selling milk during the last year, and hundreds of notices were sent to dairymen who cleaned up and kept selling milk. In some municipalities, the local boards of health kept up the work after the state board had scored the dairies from which supplies were often. This co-operation means keeping a municipal milk supply clean after it has been made so by the state board.

In New York state, two different pieces of legislation are proposed, either of which prohibits or restricts in any way, municipalities like New York City from maintaining independent systems of country milk inspection.

The drafters of these bills, however, hope, by creating a division of labor, that they will in time meet the needs and render it unnecessary for cities to expend their funds in making inspections of dairy farms. The first bill enlarges the powers of the Department of Agriculture and places upon it the responsibility for the health of the dairy cattle and the sanitary conditions under which milk or milk products are produced or handled. It provides that the inspectors of dairy farms shall be licensed to practice veterinary medicine in New York state. It also provides for the classification of dairies and the maintenance of records which shall be

available to local boards of health and to the State Department of Health.

The second bill extends the powers of the State Department of Health to the medical inspection, when necessary, of the persons handling milk; the collection of samples and their laboratory examination to determine the sanitary character of milk and milk products, and the maintenance of records and reporting, upon requisition, all the results of laboratory tests and medical examinations to the State Department of Agriculture and local boards of health.

If any one person would try to inform himself as to just what is required in the production and handling of milk, he must reach the conclusion that every dairymen is required to be all of these—biologist, zoologist, botanist, chemist, physicist, bacteriologist, physician, veterinarian, psychologist and lawyer, as well as being proficient in the knowledge and skill of breeding his calves "eugenically." However, for the dairymen whose aim is the profitable production of pure milk, probably the most important problem, aside from the feeding, is that of the barn and its accommodations.

The advice given by the Oregon Agricultural College is good. This advice follows: "The dairy cow requires, for the highest production, comfortable and healthy quarters which are protected from the inclement weather. An expensive structure is unnecessary, but one that will be convenient for the labor and furnish contentment for the herd should be provided. The location should be chosen to maintain the highest degree of sanitation, depending largely upon the drainage. The tiled-drained barnyards often eliminate the undesirable conditions found commonly. Whenever it is possible, the barn should be built on a knoll, the never on an elevation higher than the house occupies. Convenience of access from different parts of the farm saves labor and time. Barns near a main road or across a road from the house are not recommended. The landing should face north and south, so that the sunlight might enter from both sides during the day."

One of the most important problems facing dairymen is that of making the old cow stable meet modern sanitary requirements without too large expense. On the farm of J. W. Miller, of Mercer county, N. J., there is a plan of covered yard well adapted to his buildings. The idea is simply a covered yard joined to the milking stable. Nothing but the grain is fed in the milking stable, all roughage being given in the mangers in the covered yard. This plan necessitates large amounts of bedding, about two tons per season per cow. But as this makes large amounts of manure, the latter balances the cost. The plan is lessened as the cows are kept cleaner than when tied in stanchions and the cows also do better, as they have exercise protected from the rough weather of winter. The covered yard is well lighted and ventilated, and water is available at all times.—D. T. Hendrickson.

SOME QUESTIONS IN FEEDING.

Some one has said that "dairymen are, as a class, inclined to feed aristocratic feeds to plebeian cows, and so waste what otherwise would have been profit." Possibly it is by feeding these high rations to poor cows that many men are succeeding with common cows, for certainly feeding poor rations to poor cows would speedily result in bankruptcy. The writer is wondering if aristocratic cow feeds are being fed more frequently to poor cows than poor foods to aristocratic ones. Taking the

country over, there is a woeful lack of judgment as to what a practical ration is, or should be composed of, and quite as noticeable lack of skill in harvesting and securing properly the foods raised on the farm, and still more ill-considered judgment in combining them to secure the best results at the pail.

Why should not a cow give as fine a flow of milk in December as in June? The knowing why constitutes successful dairying in part, for winter milk rules high in price, and counting all cost, I think, after years of experience, that the December milk is produced the cheaper. One of the reasons why June milk is made so abundantly is not because of the aristocracy of the feed, but because of its succulence and easy digestion; and while August pasture feed may be abundant, there is a great decline in the flow of milk, simply because of the difference between grass and dried pasture, or over-ripe hay. Dry corn stalks, straw, and August-cut timothy, even with corn meal added, will not make milk in winter against silage alone, altho the chemist may find far more digestible food units in the dry feed. Even corn meal added will not help out the dry feed, for it only adds more carbon to an already over-charged carbon ration, and that is not in itself very much of a milk maker.

Does the farmer often ask himself why dry feed "falls down"? One reason is that the material being destitute of succulence, the animal is compelled to put far more energy into play in digestion; that far less is left for milk making. But he too often refuses to believe that a ration made up in the proportions of one ton of well-cared silage and 90 pounds of cottonseed is a better ration for the milk cow than either June pasture or any sort of dry feeding in the stable. With mixed hay selling around \$18, as it was last winter, why will a man cling to it and refuse to believe that two tons of fine silage and \$2.50 worth of cottonseed meal is worth far the most, either for milk or beef? Of course he would not "allow" silage to be worth \$7.50 per ton, nor would it be. But if he had a fine yield of 15 tons-to-the-acre silage in a silo by the stable door, he would concede the claim at once. These are dairy economies to be studied over, but avail nothing, if nondescript cows are to be kept.—Chas. Mathew Morgan.

GROW YOUR PROTEIN.

By careful analysis it has been found that alfalfa is equal to bran in protein content. Wheat bran costs about \$21 per ton, whereas alfalfa can be grown

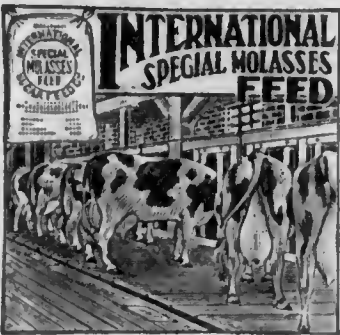
GROW YOUR PROTEIN DON'T BUY IT	
ALFALFA EQUAL TO BRAN	
BRAN COSTS	\$21 PER TON
ALFALFA	\$18 ..
RENT FOR FIVE YEARS 988.00	
SEED	2.00
PREPARATION AND SEEDING	4.00
MANURE LIME INOCULATION ETC 4.00	
CUTTING 18 TIMES	36.00
	672.00
TOTAL YIELD FIVE YEARS 14 TONS	
67200 ÷ 14 = 4800 COST PER TON	

for \$5.15 per ton, as shown by the figures presented on accompanying chart. Why should any one buy wheat bran when it costs four times as much as alfalfa, and alfalfa makes just as good, or even better feed than wheat bran?

VALUES PENNSYLVANIA FARMER.

Enclosed find \$2.00 to pay up to January 1, 1919. We are now used to your paper; we would not like to lose it.—John S. Keller, Newmantown, Pa.

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Ask your dealer for International Special Molasses Feed. If he don't keep it for sale, then send us your dealer's name and address—we will arrange with him to supply you.

INTERNATIONAL SUGAR FEED COMPANY
M. W. SAVAGE, PRES., MINNEAPOLIS, MINN. (2)

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Bargain in Holsteins.

We have sixty head of cows and heifers more than we can stable and will have to sell. If interested, visit immediately.
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Write for circular.
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Cows for sale young Holstein Bulls from 5 to 9 months old. They are all nice large finely marked individuals and will please anyone. The older ones add. Money saved in early life—earliest purchase, and right through including installation. Catalog and facts from General and The Dept. I. will be glad to send you. They are registered and will be crated F. O. B. cars.
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30 cows, 201 and 2-yr. olds, some of them bred; 10 bulls ready for service; all registered, 60 high grade 2 and 3 yr. old heifers bred to reg. bull; 30 extra fine high grade cows. High grade heifer calves \$15 each; also reg. heifer and bull calves at farmer's prices.
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KALAMAZOO TANK & SILO CO., Kalamazoo, Mich.

SEND US YOUR HIDES

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To be tanned and manufactured into coats, robes, gloves, and mittens. We are dressers of all kinds of furs. Write for free catalogue and samples telling all about our business.
Fur Coats and Robes For Sale.
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Nothing takes the place of Alfalfa for milk production; it reduces the grain bill by half and improves the condition of every animal used, whether cows, horses, pigs or poultry.
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Cotton Seed Meal Get Farmer Brand Highest price. Free Booklet. Bartlett Co., Jackson, Mich.

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Potato, Stock and Dairy farms between Phila. and New York, convenient to Trenton. All sizes, easily worked, highly productive soil, for all purposes, mild climate, unsurpassed marketing facilities. Tell us your requirements. Send for list of farms.
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Fine 100 acre farm near Alfred Agricultural School and University. Close to market; good buildings. C. A. Pierce, Alfred Station, N. Y.

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Improved farm, 175 acres, to rent; convenient to market, church, school, etc. An excellent farm. Address Jos. V. New, R. F. D. Box 92, Westford, Pa.

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Dressed Poultry For The Holiday Markets

The great variation in the quality, appearance and style of preparation of the dressed poultry to be found in most of the large markets should lead the farmers and poultrymen to consider a few facts relative to the economic aspect of the matter. What are the conditions of the dressed poultry markets in the large cities? The great bulk of the poultry offered for sale is killed in the west and shipped here under refrigeration. By far the larger proportion of this class is of poor quality. Some comes well graded, packed in boxes holding a dozen birds. Most of such stock is known as "milk-fed," which simply means that it has been closely penned and fed on a diet of ground grains mixed with skim milk. This is called "crate fattening." A small proportion of the poultry found in the markets comes from near-by states. Some of the poultry found will be "dry picked," and more "scalded." Some of it will look as if it had lost its feathers in a Wyoming cyclone, while other lots will appear as if it had grown with a blanket closely wrapped around it as a protection, and that this had just been removed, leaving the skin and flesh in a clean, fresh condition. Some shippers always send in fine, plump stock, while others apparently think of poultry as a necessary evil and get rid of it as soon as possible.

The question then that producers ought to think of is whether or not the extra time and attention necessary to put poultry in good condition for market will insure enough better prices to pay well. It is well to find out just what sort of stock brings the best prices and then compare the relative profit on such poultry with that of the kind which was sent to market to get rid of it.

Market Prices and Requirements.

In the first place, there are certain seasonal demands for poultry of various sizes and quality, just the same as with other commodities. Two-pound broilers bring the best prices during the months from February to May. Large roasting chickens are in great demand

How to Prepare and Dress Poultry For Fancy Trade in the Large Markets

By Prof. A. L. CLARK, New Jersey Experiment Station.

ferent periods. The consumers, however, get little variation in the cost prices to them. Only a few of the dealers, who have wealthy customers, can handle some of the out-of-season poultry products such as winter broilers and large Eastern capons. The law of supply and demand, however, governs the whole trade in a general way. For the holiday trade, large roasting chickens and large fowls, ducks, geese and turkeys, are the principal classes of dressed poultry in demand. Practically all markets like yellow-skinned, dry-picked poultry.

The characteristic of having yellow skin is both inherited and acquired. Certain breeds and strains have been bred for this particular factor for a number of generations until all of the stock now comes naturally with it. The nature of the feed also has considerable effect upon the skin color. Plenty of succulent green food, such as grass, clover, etc., adds to the yellow color. Yellow corn has much the same effect. Chickens having naturally white skin will improve but little with any kind of feeding, but those showing an inclination that way can be aided quite materially.

Dry-picked poultry is now preferred by all dealers who have had extended experience with it. It keeps much better than does stock that has been subjected to a scalding process. It retains an appearance of freshness that is entirely absent in the other kind. For storage purposes it was first found to be far better, and for retail trade, where poultry sometimes has to be kept for a considerable length of time, alternately in an ice-box and a show window, it keeps much better. All poultry sells better if plump and in good condition. The breast especially should be well fleshed. No poultry should be

stowed upon it in its preparation is a large factor in the selling of it.

Old fowls are usually in pretty fair condition as to plumpness. Mature fowls do not exercise and run the flesh off their bodies as do the younger chickens. Consequently there is little variation in the prices received for them. The more particular buyers will consider only fat fowls. Very often when two retail stores sell fowls at

ly weighing five or six pounds or over are often sold under this name. Such stock sells wholesale in our large markets for from 25 to 35 cents per pound. Chickens of the same size and age, but of less attractive appearance and poor in flesh, sell as low as 15 cents. The western dealers have learned the demands of the eastern markets and the western "milk-fed" roasting chickens are bringing within a few cents per pound of our best home-grown product. A most important point to one growing or marketing roasters is that the prices increase per pound with the weight of the birds; so that if a 6-pound roaster was worth 28 cents per pound, making \$1.68, a 10-pound one of equal quality would very likely bring 32 or 34 cents,



A FEW OF THESE IN A LOT WILL LOWER THE PRICE ON ALL.

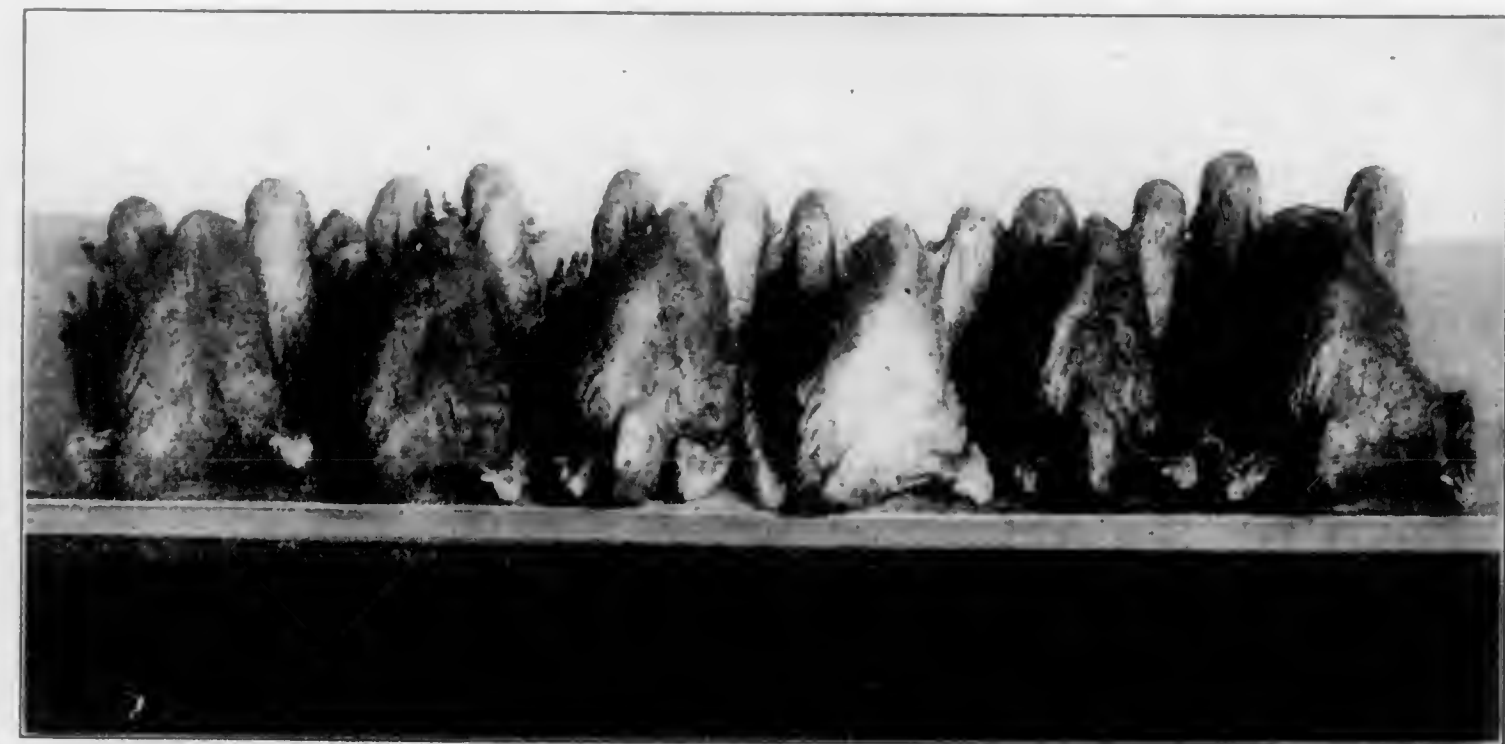
different prices it will be found that those in one store are "prime," in good condition, while those in the other are "fair," or in other words, poor. The difference in price will be perhaps not over two or three cents per pound.

Roasting chickens are spring chickens large enough to have sufficient flesh and fat on them to make good roasts. They are not so difficult to get fat as younger chickens or broilers, but the greater making it worth \$3.20 or \$3.40. It is only in the larger markets that this holds true.

Some growers are undecided whether it will pay them to kill and pick their poultry themselves and sell them as dressed poultry or to sell them alive at a lower price and save the work and bother of preparation. In the case of fancy poultry, it is much better to do the extra work and receive the extra price, because fatted poultry shrinks heavily in shipment and the buyers are not prepared to pay what the quality may be worth for live stock. On the other hand, if occasions arise so that the work cannot be conveniently done for a lot of old fowls or some of only fair quality, live shipment may be the best way to dispose of them. In New York City there is such a large population of Hebrews who consume enormous quantities of poultry and will only buy it alive, that the prices often run about the same for live and dressed fowls. One should not overlook the fact that there always will be considerable loss in weight in live shipments unless fast express transportation is available.

Killing.

Killing poultry for dry picking is a very easy matter so long as young chickens and broilers are not considered. Their skin is so thin and tender that much skill is required to work rapidly. Much of the success of dry picking depends upon the killing. A good killing knife for fowls and large chickens should have a blade 24 inches long, about 2 of an inch wide, and a handle the size of a large jack-knife handle. The fault with the killing knives sold for that special purpose is that the handles are not large enough to give one a strong grip. A half-round point at the end is about right. The bird should be suspended by the feet so that the head hangs about waist-



THE WELL-FED PRIME BROILERS THAT BRING TOP PRICES.

from October to April. Capons are almost out of the market after April and do not make their appearance again until after the holidays. Large fowls are in demand more or less at all seasons. The smaller ones sell better during the summertime oftener than during other seasons of the year. All prices fluctuate considerably in the wholesale markets, and even the retail stores buy at various prices during dif-

beheaded any more for market. The buyers want the head on as a guide to the age and quality of the carcasses. Large roasting chickens and capons do not suffer because of feathered legs, but all other classes of poultry are often discriminated against because of them. In some cases even the largest birds are desired with clean shanks. Of course the cleanliness of the stock and the apparent attention that has been be-

proportion of the roasting chickens on our markets are not plump. Consequently, those that are sell at a premium. Because in certain parts of southern New Jersey the farmers have made a specialty of growing these "soft roasters," and because they are mostly shipped thru Philadelphia, the term, "Philadelphia roasting chicken," has become a well-known market phrase. All fresh-killed chickens of fancy quali-

high. By using a double cord a common slip-knot can be slipped on and off the feet easily.

To kill the bird, it should be firmly grasped by the neck, and by stepping backward and pulling on the bird it can be held well with the head nearly chest-high. The lower mandible should be at the front and the comb in back. The blade should go in its whole length and cut the large veins at either side of the neck where the neck joins the head. This can best be done by making two oblique cuts, one on each side. The blade should then be thrust into the back or roof of the mouth toward a point in the center and behind the eyes. When it reaches the brain a peculiar squawk from the bird makes it known. Sometimes this noise is not made, but instead a violent shudder is evident throughout the body. Some people hang a weight to the bird's beak at this point to prevent "flopping," but if the wings are firmly grasped in one hand, picking can be commenced with the other hand immediately. The feathers come out easiest while the body is warm, and a good picker will have the feathers all off before the bird has stopped all fluttering. The heavy wing feathers are good ones to pull first because they soon become set. The breast feathers should be plucked next because the skin there is very tender and tears easily if it becomes cold before the feathers are removed. The feathers should be pulled at about right angles to their growth. If one uses all fingers in somewhat the same way as in milking, they come quite easily. Pull only a few at a time, but rapidly and continuously. After the bulk of the feathers are off the bird can be taken down into the lap if desired and finished. Where many are done it is the usual custom to have one do the killing and roughing and others finish them off.

Packing.

Poultry should not be plunged directly into ice water after picking. Oftentimes this leads to discoloration of the carcass. Running water, even in wintertime, does not seem to have the same effect. It should be plunged into cool water and allowed to remain there until thoroly cool, and then it may well be soaked over night or for several hours in ice or very cold water. When taken out, all blood and marks should be cleaned out. Some use oiled paper for wrapping the heads in. This is all right, but not necessary. Apple or flour barrels make the best shipping packages for dressed poultry by express. All eastern poultry should be shipped by express rather than by freight.

The bottom and sides of the barrel should be lined with clean wrapping paper. It is very cheap, and the impression it gives to the buyer is worth many times its cost. The chickens should be laid around the barrel, and after two layers are placed, a layer of cracked ice ought to be used. All dressed poultry should be packed in ice at all seasons of the year. There is no telling where or for how long the shipment may be delayed in some hot car or office. Poultry spoils easily and one cannot afford to take chances with it. Two layers of ice in the filling of it, and another generous one on top, is sufficient, except in very warm weather.

Summary of Points to Remember.

There is always a demand for fancy poultry.

Pattened poultry should pay for the additional food and labor by the weight gained per pound. The extra price paid for such fancy stock will be clear profit.

Improve the appearance by insuring empty crops, careful dry picking and clean packing.

Raise poultry for marketing at most advantageous seasons.

CUSTOM HATCHING.

There are many people who do not understand the meaning of the above term. About three years ago I had a small sign painted on my barn, which faces the public road. After considerable advertising and explaining, I convinced some farmers and small fanciers that it was to their advantage to have their eggs hatched by a large hatchery. Custom hatching is a great advantage to a large majority of people who can't afford the expense of buying an incubator. They run the chance of spoiling a lot of eggs and not a small amount of money. They don't feel that they can afford to buy an incubator, use it once or twice and then leave it for another year. They also realize that they do not know the first principles of incubation and are taking a big chance of losing whole hatches. When they take their eggs to the hatchery they know that when the twenty-one days are up they will have a basket full of nice, fluffy, healthy chicks, free from lice, provided the eggs are first-class.

Most customers bring their eggs in baskets, which I retain for them until they return for the chicks. This saves me the expense of buying boxes, and the customer from paying for them. Each tray in the incubator holds seventy-five eggs, and there are four trays to a section. By charging \$2.25 a tray, the customer is induced to bring seventy-five eggs, or a tray full; otherwise it would cost him the same. It costs the operator the same whether the machine is full or empty; therefore both the customer and the operator profit by this method. Also, it eliminates all danger of getting the eggs or chicks mixed, as each tray is partitioned off from the other trays above and below by wire netting.

Above each tray on the front of the machine are fixtures to hold a card with the name of customer, date set, kind or variety of chickens, and number of eggs if not full. By the above method there is absolutely no danger of getting the chicks or eggs mixed, which is invariably the case when one does not mark the eggs, and when one does not have a good method of keeping account of the different batches of eggs. Marking them is a stupendous job.

I turn the eggs about seven o'clock in the morning and about eight in the evening, and take a final look at them before going to bed. All eggs are taken out and placed on top of the machine to be turned and cooled. The last eggs set are always turned first. This leaves the oldest eggs to be turned and cooled the longest, and prevents any waiting, which nearly always results in cooling the eggs longer than is necessary. When one is waiting there is always something to be done in the incubator cellar, and this results in forgetting the eggs. If there is any adjustment of the regulator, in any one section, it should be done before taking the eggs from the machine.

Where gas is used for fuel, the labor and expense of operating the machine is reduced one-half. One should bear in mind, when using gas, to see that the pressure is steady and always the same; otherwise it is better to use coal. If gas is available, a good gas regulator can be purchased from the gas company for a small cost. This should be attached to the line to the incubator only, as it will not be sufficient for ordinary purposes.

When selling eggs for hatching, I always guarantee the fertility, and as a rule some customers are a little doubtful of my guarantee. For an experiment, last year, I made this proposition. They pay me the regular price, \$3 per

fifteen eggs, and I hatch the eggs for them at the rate of 3 cents per egg. In most cases, from ten to fourteen chicks was the result. This convinced them and showed that my eggs and guarantee were as advertised, gave me a chance to replace any egg in case of a poor hatch, and also proved that my method of incubating was all right.

This little scheme resulted in many customers buying more eggs and filling out the balance with their own eggs, which was enough to make a full tray.

In this locality custom hatching is almost unknown, as was shown by the sign painted on my barn, which in three years elicited only a few inquiries. Thru my advertising in local papers and other mediums, and by my hard-pushed efforts, I have awakened a good many farmers and small fanciers to the fact that while they wait for the hen to set, others, more enterprising, are selling their broilers at fancy prices. My idea is to teach the farmer, if possible, to bring his eggs to a commercial hatchery, the same as he takes his milk to the creamery.

One great advantage with the sectional hot-water incubator lies in the fact that your insurance is low, compared with the dangerous lamp-heated machines; second, the machine grows with your business; third, any one can set it up, and last, but not least, you can take it with you in case you have to move. You do not have to tear the machine all apart; just disconnect the heater and then lift the machine from the legs, and it is done in a hurry.

I think it will only be a short while until all the large poultry farms will be using only the large mammoth incubators; altho I do not agree with a few manufacturers, that any one with a few spare minutes can establish and operate a custom hatchery.—W. H. Watts, Jr., Westmoreland Co., Pa.

FOR THE PRACTICAL FARMER.

I like Pennsylvania Farmer very much. It should suit those who are farming for profit rather than for pleasure.—A. O. Wallis, Longwoods, Md.

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Have poultry houses and broods large flocks. Superior to all others in safety, economy and amount of heat. It is made by a firm which has manufactured stoves for over 40 years. The adjustable Hoover to the Ideal Coal Stove Brooder is regulated with pulleys and cords (see illustration). The heat can be adjusted according to the temperature. Economy, plus effectiveness, is found in the Ideal Coal Stove Brooder. Liberty Stove Co. 114 N. 3d St. Phila., Pa.



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This is a common-sense business proposition. When eggs are brought in for hatching, a money deposit is made. The balance is paid when eggs are hatched. This means a steady, quick income. Our 1200-egg machines are earning over \$150 in 105 days; a 6000-egg machine, \$1584 in 189 days. THE CANDEE INCUBATOR has an automatic regulator on the heater and each 300-egg compartment is separate with its own automatic thermostat regulator. There is no other machine like it. Thousands of them are in use all over the country. Write us today for booklet and full particulars.

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and all Produce, Potatoes, Onions, Apples, Hay, etc., wanted at good prices. Prompt returns. GIBBS & BRO., 221-223 N. Front St., PHILADELPHIA. Best references—Established 70 years.

SHIP Your Dressed Poultry and Fresh Eggs TO ARTHUR H. BONSON, 16 State St., 7th Ave. Terminal Market, Phila., Pa. Full Prices and Prompt Returns.

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Dressed meats, nuts, and butter. Shipment solicited by J. ELLIFFE, WRIGHT & CO., 254 Washington St. and West Washington Market, New York. Ship your live poultry, dressed calves and hogs, potatoes, apples, etc., to us and receive highest market prices. FRED YOST & CO., General Commission Merchants, Newark, N. J.

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FERRETS FOR SALE. Catalog Free. OLENDAL FERRET CO., Wellington, Ohio.

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can make poultry raising pay better than some of the crops you grow. There is a big market for Baby Chicks and a big opportunity in each farming community for someone to do a Custom Hatching Business. All you need is an hour or two of time a day and a

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Philadelphia, Pa., December 20, 1913.

BETTER COUNTRY ROADS.

The article on the first page of this issue is the first of a series describing the improvement of earth roads and the development of a township system for maintaining such roads. This series will run thru the next several weeks, and will outline a plan which can be put in force in any country community. The task we have set for ourselves in this matter is to help each one of our readers to help himself and his community to better roads. It is the immediate, the practical and the inexpensive method that will be presented. We read of the successful use of the King Drag in Iowa, Kansas or Missouri, and enthuse over the results achieved there. This series tells of its success here, in the state of Pennsylvania, and how it may be and has been used. The King Drag system may be criticised by scientific road engineers as lacking in mathematical exactness, but it gets results, and that is what is needed. This series will tell how. It remains to the public-spirited and ambitious citizens of each community to determine when and how much for each locality. Read the story and get busy.

Secretary of Agriculture
Report. For the year 1913 on De-
cember 8. It would seem

to be recognized by those who are familiar with previous reports as a Department document. It is totally unlike the previous reports and presents different lines of Department activity. Crop production and the agricultural situation are very much in the background, while attention is devoted primarily to a summary of economic questions related to agriculture in general. It is made evident that the sins of increased tonnage, depleted and exploited soils, poor business methods, and failure to apply existing agricultural knowledge are held to be of greater economic importance than the virtue of bumper production of single crops. The Secretary sees more reason for a serious, intelligent effort at increased efficiency in farming than in complacent self-congratulation for past achievements. He says that "we have just begun to attack the problems," and have "reached the period where we must think and

plan." The greater part of the report is given to a summary of the various phases of agriculture in which the Department proposes to direct new and remedial work. This will call for a partial reorganization of the Department, in which promotion will be based upon efficiency. The weather bureau service will be utilized to give a wider distribution of information on crop and weather conditions. The post office service will be enlarged to provide for an annual census of acreage and stock thru the rural carriers. Additional attention will be given to enforcement of food and drugs act and prosecution of violations. Rural credits are discussed more as a local than a general agricultural problem, and the report indicates that the Department will urge remedial measures with that condition in view. Organization of farmers and co-operative undertakings are strongly urged. Especial attention is given to duplication of effort and attending friction between agricultural colleges, experiment stations, state departments of agriculture and the federal department, and greater coordination is promised. Federal aid in experimental work in road building is advocated, and co-operation between state and federal government in road building is urged, with first attention to improvement of roads over which farm products must be transported to railway stations. It is emphasized that figures given in crop yields are merely estimates, and must be taken as such. These figures indicate that the production of crops in 1913 was materially below the average, the yield per acre on all crops combined being less than in any year in the past decade except in 1911. The corn crop is estimated to fall below any crop since 1903. Wheat is credited with a record yield. While much of the report is in the nature of a promise for future departmental work, it puts a new phase on department duty in many particulars, and prefaces important developments to come.

The complete program for Farmers' Week, to be held at the Pennsylvania State College, December 29 to January 3, is given on pages 19 and 20 of this issue. It will be noted that this program provides special features and discussions for practically every branch of farming. There is something for every farmer and every member of the farmer's family. Farmers' Week is a combination institute school and college short course. The equipment of the State College is used for demonstration purposes, and everything is done to make the week of the greatest practical benefit to the farmers attending. In addition, there is the stimulus of meeting with other farmers from all parts of the state, and pleasant and profitable social opportunities which give the occasion a holiday spirit. No better place could be selected for a brief holiday vacation from the duties of the farm. No matter what your farm specialty may be, you can profit by attendance at this session, and will return with valuable ideas to put in use on the home place, new inspiration for the work of the new year, and a higher appreciation of the dignity and importance of your profession.

Under the terms of an act passed by the last legislature, the state will give school districts and unions of school districts maintaining vocational classes an amount equal to two-thirds of the sum which has been expended during the previous school term for instruction in practical subjects and closely related technical and academic

subjects. No district, however, is to receive more than \$5,000 in any one year. In many quarters this has been construed to include manual training and domestic science, as they are generally taught. The state board of education has given the interpretation of the law in which it defines vocational education as a course of training which gives definite preparation for a definite occupation. Thus manual training or domestic science courses in which these subjects are merely introduced as secondary to other subjects in the curriculum would not come under the provisions of the law. The teaching of agriculture, to receive this state aid, must be made strictly vocational; i. e., must give definite preparation for the occupation of farming. This will necessitate the introduction of complete agricultural courses in schools participating in the special appropriation. School officers and teachers should get the ruling on this measure clearly in mind before outlining their courses of study.

An English woman, in discussing American methods and Foods, institutions, recently remarked that Americans are quite mad on the matter of medicating everything they eat and drink. "Even the milk and water must have something done to them before they are fit to use." This is a rather sweeping criticism, but there is much truth in it. A little knowledge is said to be a dangerous thing. We doubt the truth of this statement as a general proposition; but a little knowledge on a concrete subject is frequently more disturbing than a complete understanding of it. With the rapid development in the study of bacteria and germ life, the possibilities of germ infection have overwhelmed us, and in the stampede to avoid germ-infected food and drinks there is a tendency to go to needless extremes. It is a question if many of the precautions in modern-day practices are not just as extreme as was the lack of precaution in the days before germs were known. The story is told of the pampered child that was awakened from his bed of sterilized linens, bathed in medicated water in a sterilized bath tub and fed upon a breakfast of modified food. When asked as to his ambition in life, he replied: "I want to grow up to eat a real, live germ." This story is but a slight exaggeration of the natural conclusions on present-day ideas. The quest for absolutely pure foods, pure drinks and avoidance of contact with germ life in every form has become a sort of craze. Our drinking water must be rarified, aerified and vitalized; our milk must be modified, sterilized and pasteurized, and nothing is wholesome in its natural form except the air we breathe, and that is frequently under suspicion and may yet have to yield to some potent cleansing process. No one would care to return to the days of absolute ignorance in matters of sanitation, but people were surprisingly robust and healthy in those days of plain food and plain drinks. The present mixing and fixing of our natural food products may be necessary to a complete and practical regulation of a wholesome diet, but when the world has arrived at a complete understanding of the essential things in sanitary living there will be a lot of exploded theories and abandoned frills left by the wayside.

Out in Ohio some of the co-operative farmers are demonstrating the practical advantages in co-operative buying and selling among themselves. The farmers of a county which leads in potato growing are selling potatoes to the farmers of another county in which few

potatoes are grown. The transaction is saving the purchasers from 10 to 20 cents per bushel, and at the same time is giving the sellers a nice advance over the local price. The farmers of the potato county (Portage) are also starting co-operative cattle improvement work. Their county agricultural adviser was recently authorized to select a number of purebred animals for breeding purposes. It being a dairy section, the adviser purchased 22 Holstein, 7 Guernsey and 4 Jersey bulls; also one Belgian and four Percheron stallions. These animals have been stationed at convenient places thruout the county and all farmers are within easy access of a high-class sire for herd improvement. A semi-annual stock sales day has also been arranged for thru which surplus stock can be disposed of. All of these undertakings are employing the principle of co-operation, and they are keeping home-developed money at home for the gradual improvement of home industries. This is starting at the logical starting point. There is little use of talking co-operation in big things over the entire country until we have learned to use it successfully and advantageously in the little things at home.

State Capital News

To Reclaim Abandoned Farms.—A census of abandoned farms will be taken by the bureau of statistics of the department of agriculture. Representatives in each county will be asked to furnish information on the location, size and general condition of abandoned farms and the list will be made public with suggestions as to handling them. Secretary Critchfield says that half a dozen northern counties have, in addition to abandoned farms, large areas of land from which the timber has been cut and on which no effort to reforest has been made, and it is thought that much of this land could be cleared, seeded and used for pasture. Where such land is located close to land which has been farmed it can be utilized for the care of cattle and even for the growing of cattle-feeding crops. That cattle raising in this state could be made profitable is claimed by many who should know something of its possibilities. The advantage of such an industry lies in the proximity of markets. Encouraging Reforestation.—The State Forestry Commission is encouraging the replanting of trees on land which has been cut off, by offering free trees for such purposes with the provision that the state control the cutting and that the land be well located for water conservation. The auxiliary reserve law provides for taking care of large areas of land, the owners getting the benefit of low tax while timber is growing; 10 percent of the sale price to go to the counties when timber is cut. The state reserves have now mounted to a million acres, the income from which is to be devoted to the state school fund.

Rural Education.—State reports issued this month are giving a very gratifying amount of attention to rural education. One report suggests that the state pay all teachers direct and levy a three mills tax to pay for it. However, the laying of this tax on land will have its hardships and drawbacks. Perhaps it would be better to place this tax upon the corporations in lieu of some other property, now that personal property is taxable only for county purposes. The corporations pay close to two-thirds of the tax now in one form or another, and this could be expressly set aside for paying teachers. Another source could doubtless be found in taxation of the development of natural resources, a coal tax, for a starter, and a tax upon water power companies which use the streams of the state to generate power. The experts of the department of public instruction have been working hard to bring up vocational and agricultural education and there are now three types, one in the lower grades, which consists of seed corn selection, tests with soils, pruning and spraying; another in the high schools which includes text books, experiments and field work; and the third, the direct training of boys for farm work.

Public Service Tangles.—The new public service commission will have a

chance to unravel some tangles between now and the first of January. It has the pass question, and whether passes are legal, whether families of railroad men can ride, and whether power companies can continue to furnish water at reduced rates or free to churches, schools and charities.

Poor Bear Season.—The abolishing of steel traps for bears by the last legislature and the absence of any snow has made this a poor season for bear hunters. Generally there is a large kill of bears in northern counties, and lately they are reported to have been annoying many farmers. The weather, however, has made it more or less difficult to hunt them. The season ends on January 1, and the result will likely be more bears than usual next year. The kill of deer will run ahead of last year, about 1,000 bucks and 60 does being the estimate.

Lanterns Good Features.—The reports from farmers' institutes thus far show that the installation of moving picture machines has proved one of the most popular features, because it has visualized the practical results of farming and its features.

Hunters' License Law.—Last reports made to the State Treasury and Game Commission are that the issuance of licenses will run about 325,000. About 242,000 have already been reported, with all counties to hear from. The anti-trespass feature of the law also seems to have worked well, for it kept many people from roaming over farms in vicinity of cities and boroughs.

Wheat Coming Along.—According to reports made to the Capitol, the acreage of wheat this winter will be about the average except in a few counties. The late fall enabled many farmers to catch up with seeding, and as a result, people who were rather inclined to be pessimistic a few months ago are taking a different viewpoint. The wheat has had a chance to catch up and is making good headway. The mild fall has also permitted much more outdoor work to be done about farms than usual, and not a few corn fields have been plowed up.

State Police Concentrated.—It will be a matter of regret to many people living in rural communities that almost all of the sub-stations of the state police have had to be withdrawn for the winter because of the heavy expenditures of the funds of the department for strikes, game, fish and other service. The policemen have been withdrawn to their barracks, but will still be available for criminal detection. The police department has received a number of letters from farming districts complaining of the withdrawal, which, however, is unavoidable.

Blight Not Spreading.—Judging from what has been brought here in the form of reports, the chestnut blight does not appear to be spreading very rapidly outside of the districts where it was so formidable two years ago. Very few new centres of infection have come to notice west of the Allegheny mountains. In the vicinity of Philadelphia, however, the blight is as dangerous as ever. The reports about the oak blight are not as numerous as in other states. Some blight has been found on chestnut oak and black oak, but nothing serious.

Domestic Science in Schools.—Dr. Schaeffer, state superintendent of public instruction, is of the opinion that the teaching of domestic science should get more consideration from the lower schools. Many districts are limiting it to the high schools, whereas, as a matter of fact, it should be placed in the seventh and eighth grades when more girls attend school than in any other grades, and certainly more than in the high schools. If the housewives of the future are to learn this practical branch from the state, the place it should be started is in the lowest grades, the best place being where it can reach children between eleven and fourteen.—Hamilton, Harrisburg, Dec. 16.

of \$32.80 per pupil as against \$31.68 the preceding year, the entire cost being \$23,653,829.79, an increase of \$1,813,256.06 over the year before. Of this tremendous sum, all of which, however, was well spent, those amounts, or a greater part of them, were specially spent to the advantage of the rural districts: Manual training, \$459,227; transportation of pupils, \$287,448; tuition of pupils in other districts (chiefly for rural district pupils at city high schools), \$281,264.

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Buckwheat.—According to reports received from the manufacturers of buckwheat cereals, more buckwheat is being raised by farmers every year. A few years ago several hundred thousand bushels of the grain were raised yearly, but this production has decreased rapidly within the past decade. Two years ago the cereal people offered in the early spring to pay almost double the then-prevailing market price for buckwheat delivered to their plant before October 15th. By this means the farmer was certain of what he would get long before the time came to put in the seed, and he could make such arrangements as would enable him to raise more buckwheat, the farmers, and the production of the grain is on the increase.—D. T. Hendrickson.

To Abolish Gambling.— Cecil county citizens at a recent meeting instructed legislative representatives to urge the repeal of all laws allowing race track gambling in Maryland. Some years ago an outlaw race track was located at Elkton, and flourished for a time, but was finally prohibited by the General Assembly. Knowing what the gamblers did, Cecil countians are anxious to prevent demoralization in other counties. The laws of Maryland seem to favor gambling schemes. Under the guise of "agricultural fairs," "state fairs," "county fairs," etc., horse race gambling, betting, and all the evils that follow the class of public floozers, are allowed to go the limit. There are too many county fairs developing into what Joshi Billings once termed so aptly as "agricultural horse fairs." Horse racing is no upholder of agriculture.

Dorchester County Fair Association.—It has been decided to organize a Dorchester County Fair Association, which it is hoped, the farmers of the county will liberally support.

Disease From Corn Eating.—Since the new corn has been used in feeding, there are in several counties a number of cases of (so-called) hog cholera, and some cattle and horses have died with "mysterious" diseases. Farmers who feed unseasoned or immature corn in the late fall to any live stock—even poultry—invite trouble, and often serious loss. The damp weather damaged much corn. The symptoms of the swine that died, it is claimed, were not those of hog cholera. Some horse and cattle losses in Howard county were traced conclusively to new corn as the cause.

Carroll County Hog Champions.—Carroll county hogs seem to hold the championship for heavy weights. E. O. Cash, of Middleburg, killed four hogs last week that weighed respectively 683, 692, 716, and 728 pounds, total, 2819. Mr. Cash, for the past ten years, has raised the heaviest hogs in the county.

Harford County Wins Prizes.—Harford county again rejoices because Garrett Radebaugh, near Belair, won the Grand Champion corn prize at the Inter-State Corn Contest in Philadelphia. During the annual meeting of the Holstein-Friesian Breeders' Club in Baltimore last week, a \$300 Holstein-Friesian bull, given to the club by Charles L. Corby, president of the club, was awarded to H. W. Hawson, of Edgewood, Harford county, after a contest in which the club members all participated.

Winter Plowing Being Done.—Favorable weather in several counties has induced many farmers to do their "winter" plowing a little early, although we believe some soils are not benefited by such early "winter" plowing.

Poultry Prize Offered.—A Washington, D. C., poultry show offers a calf for largest entry of poultry made by an exhibitor from Prince George's county, Md.

Baltimore Poultry Show.—The Baltimore Poultry Show, to be held January 6 to 10 next, will be the greatest in its history. The annual meeting of a num-

ber of specialty poultry clubs will be a drawing card, among them, the Waterfowl Club of America. There are many waterfowl breeders in the state, mainly on the Eastern Shore. At this show last year, 23 states, England and Canada were represented.—G. O. B.

NEW YORK LETTER

Big Measures.—Four of the bills fathered by Governor Glynn passed the senate, viz.: The direct primary, the Massachusetts ballot, the constitutional convention, and the workmen's compensation measures. If they get thru the assembly (and the only question is that of getting a quorum) they will become laws very promptly by the Governor's signature.

College of Forestry.—The College of Forestry at Syracuse has asked for a state appropriation of \$38,000 as the necessary amount to carry on its work and erect a new forestry building next year. Of this amount, \$84,000 is for maintenance.

Cornell's New Plan.—It is announced that Cornell will open its doors the year around to students in the state agricultural college. A summer term will be added to the two other terms, similar in all respects to them. The new plan will enable students to graduate in three years instead of four.

Factory Statistics.—A recent issue from the office of the state department of labor says that there are 1,236,150 persons employed in the 48,851 factories in this state. Of these, 347,601 are women, and 13,519 are children between the ages of 14 and 16 years. One out of every eight of the state's population is employed in the factories, and one male out of every six is a factory employee.

Officers Elected.—The new officers of the State Dairymen's Association are: J. C. Elwood, of Buffalo, president; W. E. Dana, of Avon, vice-president; W. E. Griffith, of Madrid, secretary; Robert Kirkland, of Philadelphia, N. Y., treasurer. Commissioner C. J. Hunsen, F. C. Soule, of Syracuse; W. N. Giles, of Skaneateles; Prof. W. A. Stocking, Jr., of Ithaca; J. Y. Gerow, of Washingtonville, and G. E. Dietrichs, of Syracuse, are the board of directors.

Auto Accidents.—According to reports from the office of the secretary of state, there have been 416 deaths of persons on the public highways, and 2,149 persons have been injured by motor vehicles in this state during the past eleven months. It is about time that something was done to prevent reckless driving of autos on our public highways.

Bureau of Co-operation.—Hon. Marcellus W. Cole, deputy commissioner of agriculture, desires to remove the granges of the state that are superintendent of the new Bureau of Co-operation of the Agricultural Department, he is ready and will be glad to arrange with granges of the state to address them on the subject of co-operation and the formation of co-operative associations.

Big Grange County.—Jefferson county reports 7,536 members of the grange within its borders, a gain of 258 during the past year.—D.

INSTITUTES NEXT WEEK

New Jersey.

Dec. 22, Dover, Morris county; Dec. 23, Florham Park, Morris county.

Pennsylvania.

Dec. 22-23, New Galilee, Beaver county; speakers, J. T. Campbell, Shelton W. Funk and E. B. Dorsett. Dec. 23-24, Swedes Valley, Potter county; speakers, R. P. Kester, E. L. Phillips, R. J. Weld, Mrs. Jean K. Foulke. Dec. 27, Tompkinsville, Lackawanna county; speakers, L. W. Lighty, W. H. McCullum, Fred W. Card.

NEIGHBORHOOD VALUES PENNSYLVANIA FARMER.

Received your letter stating that my paper has expired. I renewed my paper in September and also sent a subscriber by the name of "Neddy" getting the paper promptly. Nearly everyone in this section takes the paper and wouldn't be without it.—Frank Alburger, Sicklerville, N. J.

FOR THE PRACTICAL FARMER.

I have been much interested in Pennsylvania Farmer. The articles are so to the point, but not so pointy that they are worthless. I have been getting more information (practical) than from all other farm papers I take, combined.—Prof. W. S. Keiter, Myerstown, Pa.

NEW JERSEY FARM NEWS

The Tax Ratables.—This year the tax ratables of the state show an increase of \$116,450,412, the net valuation of the real and personal property locally taxable in the several taxing districts being \$2,406,960,693. This increase hits both the cities and the rural districts, the increase in the agricultural county of Monmouth alone being \$5,061,128, almost entirely on real estate. There is an increase in each one of the 21 counties.

The State Schools.—The schools of the state last year cost on an average

of \$12.80 per pupil as against \$31.68 the preceding year, the entire cost being \$23,653,829.79, an increase of \$1,813,256.06 over the year before. Of this tremendous sum, all of which, however, was well spent, those amounts, or a greater part of them, were specially spent to the advantage of the rural districts: Manual training, \$459,227; transportation of pupils, \$287,448; tuition of pupils in other districts (chiefly for rural district pupils at city high schools), \$281,264.

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held responsible for the rotting of the fruit.

Corn.—The corn crop was above normal in the upper part of the state, while in South Jersey, where it was planted much earlier, it was affected by the drought, and the yield is short. Up in Warren county the recent snow fall caught many farmers with shocks of unhusked corn still in the fields. In spite of the previous fine weather, they have been unable to get their husking done, for two reasons: the unusually large crop, and the great scarcity of help.

Buckwheat.—According to reports received from the manufacturers of buckwheat cereals, more buckwheat is being raised by farmers every year. A few years ago several hundred thousand bushels of the grain were raised yearly, but this production has decreased rapidly within the past decade. Two years ago the cereal people offered in the early spring to pay almost double the then-prevailing market price for buckwheat delivered to their plant before October 15th. By this means the farmer was certain of what he would get long before the time came to put in the seed, and he could make such arrangements as would enable him to raise more buckwheat, the farmers, and the production of the grain is on the increase.—D. T. Hendrickson.

To Abolish Gambling.— Cecil county citizens at a recent meeting instructed legislative representatives to urge the repeal of all laws allowing race track gambling in Maryland. Some years ago an outlaw race track was located at Elkton, and flourished for a time, but was finally prohibited by the General Assembly. Knowing what the gamblers did, Cecil countians are anxious to prevent demoralization in other counties. The laws of Maryland seem to favor gambling schemes. Under the guise of "agricultural fairs," "state fairs," "county fairs," etc., horse race gambling, betting, and all the evils that follow the class of public floozers, are allowed to go the limit. There are too many county fairs developing into what Joshi Billings once termed so aptly as "agricultural horse fairs." Horse racing is no upholder of agriculture.

Dorchester County Fair Association.—It has been decided to organize a Dorchester County Fair Association, which it is hoped, the farmers of the county will liberally support.

Disease From Corn Eating.—Since the new corn has been used in feeding, there are in several counties a number of cases of (so-called) hog cholera, and some cattle and horses have died with "mysterious" diseases. Farmers who feed unseasoned or immature corn in the late fall to any live stock—even poultry—invite trouble, and often serious loss. The damp weather damaged much corn. The symptoms of the swine that died, it is claimed, were not those of hog cholera. Some horse and cattle losses in Howard county were traced conclusively to new corn as the cause.

Carroll County Hog Champions.—Carroll county hogs seem to hold the championship for heavy weights. E. O. Cash, of Middleburg, killed four hogs last week that weighed respectively 683, 692, 716, and 728 pounds, total, 2819. Mr. Cash, for the past ten years, has raised the heaviest hogs in the county.

Harford County Wins Prizes.—Harford county again rejoices because Garrett Radebaugh, near Belair, won the Grand Champion corn prize at the Inter-State Corn Contest in Philadelphia. During the annual meeting of the Holstein-Friesian Breeders' Club in Baltimore last week, a \$300 Holstein-Friesian bull, given to the club by Charles L. Corby, president of the club, was awarded to H. W. Hawson, of Edgewood, Harford county, after a contest in which the club members all participated.

Winter Plowing Being Done.—Favorable weather in several counties has induced many farmers to do their "winter" plowing a little early, although we believe some soils are not benefited by such early "winter" plowing.

Poultry Prize Offered.—A Washington, D. C., poultry show offers a calf for largest entry of poultry made by an exhibitor from Prince George's county, Md.

Baltimore Poultry Show.—The Baltimore Poultry Show, to be held January 6 to 10 next, will be the greatest in its history. The annual meeting of a num-

Household

GIVE CHRISTMAS SPIRIT.

In the stress of getting ready for Christmas it is easy to lose sight of the real meaning of the day. As a celebration of the birth of Christ, it brings sweet and gentle pictures of the Christ child before us, so it is essentially a children's day, and from this a family day. But not necessarily a one-family day or a close-circle family day, for its message is "Peace on earth, good will to men." We should remember from this, that we are all members of one great family.

It is the one time of the year when the gentler feelings should come into active play, if, perchance, they have lain dormant thruout the year. It is the one time of the year when we can let our friends and neighbors know that we love them, that we wish them well. Nor does one need to be rich to do this. There are some persons who let Christmas go by without any celebration because they cannot afford to buy expensive presents. And as the years come and go, these become poorer in spirit than they are in purse. There are none of us so poor but that we can give a Christmas greeting, a Christmas wish, a Christmas card, a Christmas letter. It is the knowledge that some one thinks of us, some one cares for us, that helps us over the rough places of life. A hearty Christmas greeting, a card from an old friend, or a letter, a real Christmas letter, full of Christmas feeling, is prized thruout the year.

One young woman who never has much money but who is rich in love for all her fellow creatures, calls Christmas her "blessed" season. She said one time, when discussing Christmas and Christmas giving: "You know, of course, that I do not have much money to spend, so I put as much loving thought into my gifts and remembrances as I can. I try to remember the fancies and tastes of my friends, and no matter how small the remembrance, it may be a one-cent Christmas card, I choose it carefully with a view to how it will look to the one who receives it. Moreover, I never give anything I would not like myself. And when my Christmas money is gone, I just wish everyone a merry Christmas. But not always aloud, for sometimes when I meet strangers or pass them on the road, I wish them in my heart a sincere 'Merry Christmas.'" It is not strange that this young woman is happy at Christmas time.

A woman, older in years, but always young in heart, laughed with tears in her eyes as she opened a Christmas box which came to her from her home state, and which contained some jars of apple butter, and preserved fruit, one quart of pears, one of raspberries, and one of peaches. The apple butter was the spicy kind that you can never buy; the fruit was beautiful to look at, and delicious to taste. But the best part of all, and that which brought the mist of happy tears to the eyes of the recipient was that the friend had remembered after the lapse of years how fond she was of apple butter.

A woman who was born in the country, but who has spent much of her life in the city, looks forward every year to the basket that comes from the country cousins at Christmas time. In this basket there is sure to be some country sausage, seasoned and smoked just to her taste. With this there are different things different years. Sometimes there are packages of dried corn, dried apples and pop corn. Other times, chest-

nuts, walnuts and hickory nuts. Another year some jars of sweet pickles and preserves. But whatever comes with the sausage is sure to be appreciated, and as for the sausage, that is a choice article of food saved for special meals.

One holiday season a woman who spends her working time in the city said, as she touched the box with loving fingers, "This is one of the gifts that pleases me most. These ferns are from a ravine at the side of the hill where I gathered arbutus as a child. Two of the girls who used to go for arbutus with me, went out there and gathered these ferns and this moss. They wrote me just where they found them. Do you wonder that I like them?"

It is the desire to please, to let others know that you are thinking of them as individuals with sentiment and characteristic tastes that makes acceptable the gift, whether it be great or small. The expression of the true Christmas spirit renews the bond of good fellowship, strengthens the ties of friendship and binds together the hearts in the family. It tends towards sweetening and freshening the whole world. It benefits the one who has this spirit, too, for as some one has said, "You cannot spill happiness over others without getting a few drops on yourself."—Nevada Davis Hitchcock.

STUDY IN FARM HOMES.—NO. II.

The accompanying illustration shows a farm house in Monmouth county, N. J. It is a good example of the general effect of a deep lawn and regular planting of trees. The old-fashioned picket fence is very slightly when well painted and kept in repair, and with well-kept grounds within. This is the second of a series of illustrations showing farm homes of readers. We shall be glad to have additional photographs of homes of readers showing distinctive features in house construction or in planting.

ATTRACTIVE HOME-MADE CHRISTMAS PRESENT.

This dainty and useful little Christmas gift, which would be acceptable to any woman or girl, is a holder for a bolt of ribbon and is easily made.



A FARM HOME AT SHREWSBURG, MONMOUTH CO., N. J.

The cost, too, is very slight, and when it is finished it makes a worthy remembrance for your most fastidious friend. Take two pieces of cardboard and cut them heart-shaped, making them about four inches across at the widest point, and about five inches long. Of course, the size can be smaller if the maker desires, but I find that this size is the nicest and makes the best appearance. After getting the cardboard the

right shape, prepare to cover both pieces. For the covering, procure a good grade of Persian ribbon with bright, delicate colors, either pink or blue predominating. Get one-third yard of ribbon, plain ribbon, to match, to use for the linings on the inner side of the hearts, as only the edges show and the plain ribbon does just as well and is not so expensive as the Persian.

Select the cardboard heart that you wish to use for the top and cut a piece of sheet wadding the same size, as it is prettier to have the top slightly padded. Sprinkle a little sachet powder in the padding and stretch the ribbon over it,



A CHEAP AND ATTRACTIVE CHRISTMAS GIFT.

having it turned neatly over the edges. Hold this securely in place by sewing backwards and forwards until the covering is perfectly tight and neat, then cut a piece of the plain ribbon and sew it over the back, hiding all of the edges and stitches of the front cover.

Now cover the other cardboard in the same way, only omit the padding, as it isn't necessary on the back. Your two pieces are now ready to fasten together, but before doing so make a little loop of ribbon on the outside of the front piece, to stick the ribbon tape thru, as shown in the illustration. For this you must have some narrow ribbon of the same shade. Buy at least a yard and a half of this size, which should be no wider than a half-inch, narrower if possible.

Doll furniture is displayed in abundance. How happy a little girl may be made for fifty cents. First, a ten-cent doll, then a chair, a table, a set of dishes and a kitchen set. Think of the hours that would be spent in preparing meals and serving them to dolls.

Then the boy of the family; think what fun he could have for fifty cents, with a house or stable, a horse, a dog, a fire engine and a hook and ladder wagon. All of these may be had for ten cents each. Noah's arks, with a fair assortment of animals, come at ten cents. Plump cloth rabbits, soft and "cuddly," may be had for a nickel. There are all kinds of animals at a dime—those that wag their heads, and those that do not; bears, with chains; sheep, both in and out of crates; rocking horses and prancing steeds on wheels; lions, tigers, cats and dogs.

There are celluloid rattles, wooden rattles and tin rattles for the baby, and ice wagons, U. S. mail wagons and delivery wagons for his older brother. One finds all kinds of games, blocks, fishing sets, soap bubble sets, balls and paint boxes for children a little older.

Some of the things outside the toy department are pretty enough to make attractive gifts. Imitation white coral, or Parisian ivory jewelry, picture frames, and toilet articles, framed pictures, bar pins, combs and barrettes, are shown in neat and tasteful designs.

Buy a bolt of baby ribbon, white preferably, as it can be used for anything.

Make a large hole thru the center of the bolt, punch two holes thru the center of each heart and tie the two pieces together, fastening the bolt between them by passing the ribbon thru the hole. This will allow the bolt to turn around when the ribbon is pulled off. Use some of the narrow ribbon for tying the two sides together, making the ends come in front where they are fastened by a pretty bow. Then make your hanger and fasten it to each side of the back, on the inside, and it will hang up evenly. Place a full bow at each end where the ribbon is sewed onto the cardboard. For one or two cents you can buy a white bone ribbon tape needle. Place this thru the slip made for it and your present is complete.

It can be made easily in one evening, and makes a pretty and unusual gift. I have made several and everyone to whom I presented them said they had never seen any just like them, and they seemed greatly pleased, and as the entire cost is only 60 or 70 cents, according to the value of ribbon used, I have been very well satisfied with this little Christmas remembrance.—Elizabeth R. Litts.

CHRISTMAS AT FIVE-AND-TEN STORES.

Any one who watches the throngs of people surging in and out of the five-and-ten-cent stores; any one who goes in and sees the gay toys, glittering tinsel and brilliant Christmas tree ornaments, must hope that no childish heart will be sad on Christmas day; for such pretty things can be had for five and ten cents.

Marbles in a neat bag, and enough of them to make a small boy feel rich, are sold for a nickel. On the same counter was displayed pastry sets, rolling pin, mixing bowl and spoon, which would delight the embryo cook. And this is sold at the same price.

As for dolls, there are pretty little ones for five cents. But for ten cents there are all kinds. There are such pretty doll fixings, too. One cunning box has a bath tub, towel and soap and a small celluloid doll ready for the little mother to give it its daily bath. Then there are combs, mirrors, shoes, bracelets, beads, dresses, hats and all the toilet accessories.

Doll furniture is displayed in abundance. How happy a little girl may be made for fifty cents. First, a ten-cent doll, then a chair, a table, a set of dishes and a kitchen set. Think of the hours that would be spent in preparing meals and serving them to dolls.

Then the boy of the family; think what fun he could have for fifty cents, with a house or stable, a horse, a dog, a fire engine and a hook and ladder wagon. All of these may be had for ten cents each. Noah's arks, with a fair assortment of animals, come at ten cents. Plump cloth rabbits, soft and "cuddly," may be had for a nickel. There are all kinds of animals at a dime—those that wag their heads, and those that do not; bears, with chains; sheep, both in and out of crates; rocking horses and prancing steeds on wheels; lions, tigers, cats and dogs.

There are celluloid rattles, wooden rattles and tin rattles for the baby, and ice wagons, U. S. mail wagons and delivery wagons for his older brother. One finds all kinds of games, blocks, fishing sets, soap bubble sets, balls and paint boxes for children a little older.

Some of the things outside the toy department are pretty enough to make attractive gifts. Imitation white coral, or Parisian ivory jewelry, picture frames, and toilet articles, framed pictures, bar pins, combs and barrettes, are shown in neat and tasteful designs.

And with Christmas cards, ten for five cents, no one ought to be without at least a Christmas greeting on Christmas day. The little boy who loves the "choo-choo" would be pleased with any one of the numerous engines or trains of cars. There are tiny complete trains for five cents; good iron ones for ten cents. There are engines with cars, and cars without engines.

There are so many Santas that no one really need go without one. Tinsel for the Christmas tree is sold two yards for five cents. Glittering ornaments and swaying angels are five cents each, as well. All kinds of candy to put in the stockings are displayed in neat packets. Surely we may hope that with so many five and ten-cent stores no child need have an empty stocking this Christmas.—N. D. H.

CHOICE EGGLESS RECIPES.

Eggs are soaring and the housekeeper should be hunting for eggless desserts to permit selling as large a number as possible. Here are a few that are truly appetizing:

Molded Peaches.—Dissolve half a box of gelatin in the juice from a quart jar of peaches. Let the gelatin and juice, after being mixed, become heated thru and thru, sweeten to taste, pour some of the mixture in the bottom of the mold with white grapes and chopped nuts. When stiffened, put in another layer of gelatin, nuts and fruit. Repeat until the mold is filled. This prevents



GLOVE FOR CLEANING AND POLISHING.

fruit from rising to the top. Serve with plain or whipped cream.

Glazed Apples.—This is a delicious dessert. Baked apples in a thick glaze of syrup. Core tart apples, cut in half and roll in flour. Fill the centre with a lump of butter and cover thickly with granulated sugar. Sprinkle over with ground cinnamon, add a little water and bake in a moderate oven until almost candied. Eat with cream. These apples are delicious if filled with preserved ginger or cherries, if a more elaborate dessert is desired, and may be served either hot or cold.

Chocolate Pudding.—Use three tablespoons of cornstarch and three of sugar to a quart of fresh milk in which has been dissolved three squares of chocolate. Add a small piece of butter and a pinch of salt to remove cornstarch taste. Flavor with a few drops of vanilla. When thickened, pour into a mold (having already wet the mold with cold water) and let the pudding become ice cold. Serve with cream, plain or whipped. If the molded chocolate does not stiffen enough, put in sherbert glasses and serve with whipped cream on top. A nice variation of this dish is to stir in seeded raisins, chopped nuts and minced citron before taking from the stove.

Rice and Fruit.—Cook slowly in a double boiler a half-pound of rice in 3 pints of milk until the milk is entirely absorbed. Sweeten with 3 tablespoons of sugar. Pour into a circular

mold to harden. Serve with sliced bananas, stewed figs or spiced pears (altho any fruit preserved may be used). Serve with rich cream and sugar.

Bread Cakes.—Dip cubes of bread in milk and fry a delicate brown. Dust well with powdered sugar and serve with hot chocolate sauce.

Cocoanut Dainty.—Strain the juice from a can of cherries and place in a glass dish with alternate layers of minced bananas. On each layer sprinkle a tablespoonful of powdered sugar. Make a custard of a scant cup of fresh milk and a heaping tablespoonful of cornstarch. Stir in a large cupful of grated cocoanut and when perfectly cold, pour over the fruit, sprinkling cocoanut on top. Serve very cold.—Elizabeth O. Jean, Baltimore Co., Md.

A GLOVE FOR CLEANING AND POLISHING.

This dustless mitten duster is unexcelled for general household dusting. It is made of heavy cotton yarn and will last for many months. You cannot soil your hands when using it. It fits like a glove, so reaches every nook and corner.—Housekeeper.

FOR THE KITCHEN NOTEBOOK.

A Tried Recipe for Curing Hams and Bacon.

If you have no particular rule to follow in curing your pork, try this one.

Rub the hams, shoulders and pieces of bacon with common salt, but do not use too much salt. Then place them in a water-tight barrel; a vinegar or cider barrel is good. Make a brine, enough to cover the meat, by using 5 lbs. of salt, 1 lb. brown sugar, 1 ounce of saltpetre, and 4-ounce of red pepper (or more if black is used) for each two gallons of water. Put this into a kettle over the fire and boil for ten minutes, stirring every little while. Remove any scum that may rise, and after it is cool, pour over the meat. And there should be enough brine to well cover all the meat. The hams should stay in this brine 5 or 6 weeks; the shoulders 4, and the pieces of bacon 3 weeks. Small pieces of bacon may be taken out at the end of 2 weeks.

When seasoning the sausage meat have a little variety. Separate it into different portions; let one be seasoned with plain pepper and salt; to another add some celery salt to give a flavor of celery; to a third drop in some powdered sage leaves. To the fourth portion

some powdered sweet marjoram in addition to the usual amount of salt and pepper.

In trying our lard, the things to remember are that the lard should be cut into small pieces and put into a kettle with a cupful of water. Then place over a slow fire where it will melt slowly. This will do much toward keep-

ing the lard from burning. Of course it must be stirred often and kept simmering until nothing remains but brown scraps. Remove these with a strainer or perforated skimmer, and then throw in a little salt to settle the fat. Let it set off the fire a little while to settle and then strain thru a coarse cloth (in the colander is a good way) into tin cans or granite pails. Cans with covers, or pails with tight-fitting covers, are the best.—H.

Peach Dessert.—Take one can of peaches and press thru a sieve. Add a little sugar only. If already sweetened, beat into the pulp as much whipped cream, measured, pack in a mold and set away in ice and salt for two hours. Serve with macaroons or sponge cake.

PENNSYLVANIA FARMER PATTERNS.

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct filling of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address Pennsylvania Farmer, 214-18 So. 12th St., Philadelphia, Pa.

5980—Girl Doll's Set.—Seven sizes, 14 to 26 inches long. A 24-inch doll needs for dress, 1-yard 36; for coat, 1-yard 44, and for hat, 1-yard 27-inch goods. Price of pattern, 10 cents.

6067—Ladies' Dress, with Four-Gored Skirt.—Five sizes, 34 to 42 inches, bust measure. Size 36 requires 6 yards 36-inch material; 1-yard 22-inch all-over lace. Price, 10 cents.

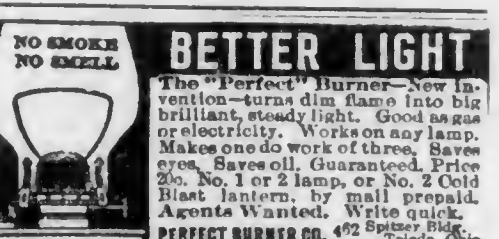
6209—Ladies' Skirt.—Five sizes, 22 to 30 inches waist. Size 24 measures 2 yards at lower edge; requires 3 1/2 yards of 36-inch material. Price, 10 cents.

6339—Girl's Dress.—Five sizes, 4 to 12 years. Size 8 years requires 2 1/2 yards of 36-inch material and 1 1/2 yards of ribbon. Price, 10 cents.

6021—Ladies' Shirtwaist.—Five sizes,



34 to 42 inches, bust measure. Size 36 requires 2 1/2 yards of 36-inch goods; 1-yard of 24-inch contrasting goods. Price, 10 cents.



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Grange

STATE MASTER CREASY'S REPORT

The 41st annual meeting of the Pennsylvania State Grange, held at Reading, December 9 to 12, was in many respects the best ever held. The State Master's address outlined a wide range of grange activity which was covered systematically in the four-day session. Mr. Creasy reported substantial growth in the past year, with 57 new sub-ordinate granges added, and an increasing number of grange halls built. He urged the development of community interest around the grange hall as the central center of the community. For the further development of the grange as an effective organization, he urged better discipline in conduct of meetings, and organization of more Pomona granges, and wider publicity of grange work. On general state policies, his address is a concise index of the aims and purposes of the state body. Following are the leading lines of work laid down:

Education.—Education is one of the prime objects of the grange. The grange advocates the teaching of practical agriculture and domestic science in the common schools as far as possible. The rural schools develop the foundation of future citizenship, and the standard of the school system of a state depends upon the standard of the rural schools. Our country schools are not up to standard, and they demand first attention from the state.

Co-operation.—The grange is the logical organ thru which farmers may co-operate in the transaction of business. The Keystone Grange Exchange provides the necessary machinery. The state grange has adopted a co-operative credit system which will fit in our present banking system, and is available at any time that its membership wants credit.

National Grange.—The National Grange elected officers this year who were selected in a caucus presided over by the brother from Ohio; the brother from Indiana was the chief engineer. The Pennsylvania delegate was not present, in fact, he was not invited. The act of the National Grange which attracted the most attention was the slap at the President and his Secretary of Agriculture.

Insurance.—Mutual life insurance was recommended to the serious consideration of the Patrons. The Master recommended life insurance on the legal reserve plan, with the majority of stock to be held by grangers. He endorsed the company now organized under the laws of New York state, stock in which is now being sold in this state.

Conservation.—Reiterating the grange position on conservation of our timber supply, the Master favored the law which failed in the last legislature, holding every person and corporation responsible for the fires on its property. He condemned the auxiliary forest reserve law as uneconomical in "tunneling a mountain to catch a mouse," and declared against a policy of "permitting the taxes on one man's timberland to be paid by his neighbor who is growing fruit trees and alfalfa." He favored conservation of water power, but criticized the law passed in the last legislature as preventing the farmer from using the water conserved unless he gets permission from the water commission. He advised increased powers to townships in township affairs.

Agriculture.—Commenting on the many uplift movements, the Master said that farmers are merely asking for a

square deal and equality with other interests. Some of the inequalities now existing which need to be righted are unequal taxation, inefficient marketing system, and equipment of poor quality. As an example of unequal taxation, he pointed out that farm real estate paid a tax rate of 16 mills, while corporate and intangible property pays an average of 3 mills. Further, that a farmer buying a farm worth \$5,000 and paying \$2,000 on it, pays taxes, not on \$2,000 worth of property, but upon \$5,000, and at an unequal rate.

NEW JERSEY STATE GRANGE MEETING.

The annual sessions of the New Jersey State Grange were held this year on the Steel Pier at Atlantic City, and the deliberations were presided over by the State Master, State Senator George W. P. Gaunt, of Gloucester county.

The one great feature of this meeting was the excellent report rendered by Senator Gaunt, who criticized the movement for a constitutional convention, declaring that it represented an effort to deprive agricultural districts of their rightful representatives in the state senate. He favored amendments to the employers' liability and insurance rate acts which, he declared, work injustice to farmers. On the educational problem, Mr. Gaunt said:

"The State Grange has advocated practical training, and the state is beginning to substantiate our contention that the muscles as well as the brains should be trained. There seems to be much dissatisfaction with our present school law, many claiming that too much authority is placed in the State Board of Education and not enough in the district boards. I would recommend that two representative farmers from each county meet with the State Board of Education in an effort to reach an intelligent solution of the problem."

Opposing the constitutional convention movement, the speaker said: "The main reason for asking for a constitutional convention is to accomplish the selection of delegates on a basis of population, and this means that Essex, Hudson and Passaic counties would control and dominate the convention. In that event the upper branch of the State Legislature would be absolutely in control of men entirely unfamiliar with agricultural needs, and could only result in agricultural retrogression, instead of progression. We of the rural counties have no desire to control the cities, and we must insist that there be no transgression of our rights from that source."

On roads, Mr. Gaunt said: "Transportation methods of every known kind have advanced rapidly, but the farmer is still confronted with the same troublesome road conditions. We want roads that will permit the farmer to market his crops when the crops are ready, and not when the roads are ready. But in dealing with the road problem we must not be unmindful of the cost, but inasmuch as our officials interest themselves to a greater extent in many other directions involving the expenditure of money, we would suggest that they practice economy in other directions rather than on the highways."

The State Master favored exempting motor vehicles from taxation and materially increasing the license fees. He declared a state tax to provide additional funds for road building is out of the question. He declared for a complete system of inland waterways, state preservation of timber lands and absolute control of all potable water supplies. He said: "Grade crossing elimination will, no doubt, be a legislative question at the coming session."

I am strongly of the opinion that the further sacrifice of human life at grade crossings should be avoided by the installing of gates or some other mechanical devices that would positively warn of the approach of trains."

Resolutions were adopted urging all farmers of the state to demand restoration to rural school districts of some of the powers now held by the State Board of Education, and that the tenure of office act should be either repealed or modified. The more conservative members uttered a warning against radical action. They urged that two representative farmers from each county be named by the grange to confer with the State Board of Education to bring about such reforms as were considered vitally necessary at this time.

A state-wide movement to assure improved methods in marketing farm produce and fruit was started. Co-operation similar to that now practiced in the purchase of farm supplies was urged in the sale of produce as the prime necessity for improving present-day conditions in the agricultural sections of the state. A plan was submitted similar to that in vogue in California and other western states, where farm products and fruits are inspected and graded by bonded experts. This method is used by all the New Jersey potato exchanges and has given such marked satisfaction that it is planned to extend it to all farm and orchard products. Another important feature was the adoption of a report declaring the great need of trained laborers to increase the yield of the state's farms.

A committee reported a comprehensive platform, the planks of which include better roads, equitable taxation, improved rural schools under local control, opposition to constitutional changes that will deprive the smaller counties of equal representation in the state senate, and the protection of life at grade crossings. The grange also went on record as being opposed to automobile reciprocity. The committee of agriculture declared for the extension of special courses in the rural schools and state demonstration farms in many of the counties, which, it is said, may be made to pay all operating expenses and pay dividends.

State Secretary John B. Cox reported the organization of new granges at Toms River and New Bethel, making a total of 201 sub-ordinate bodies, with an aggregate membership of 16,726. These were represented by about 500 delegates. Two vacancies on the board of trustees were filled by the election of E. M. Loveland, of Salem county, and Albert Heritage, of Gloucester county.—D. T. Hendrickson.

ENGINEERS REPORT TO N. Y. HIGHWAY COMMISSION.

The Board of Consulting Engineers has recently submitted its report with recommendations to the New York State Highway Commission. It points out the fact that there are about 4,000 miles of state highways and 8,000 miles of county highways in the state. The report is confined largely to the recommendation of a scheme for the reorganization of the department. It believes that \$3,000 to \$5,000 a year can be saved and at the same time increase the efficiency of the department. Under the reorganization scheme, the state would be divided into two divisions, each in charge of a deputy. The state again further divided into nine sub divisions, each in charge of a division engineer; then each of the nine divisions is divided into seven sections, each of which will be in charge of an assistant engineer. Among the chief recommendations of the board are the following:

1. That a board be created to consider and report upon appropriate state and county road systems, and methods of financing them.
2. That continued tests be made to determine the most effective and economical forms of construction under the widely varying conditions.
3. That complete records of all employees be kept in order that the most efficient organization can be soonest perfected.
4. That all state and county highways be sign-posted and dangerous curves be widened and suitably banked.
5. That construction, maintenance and town-highway work be consolidated.
6. That the engineering or construction department be made permanent and kept free from politics, and be required to pass upon technical matters only.
7. That the commissioner prescribe regulations limiting the size, width and weight of vehicles, and governing the width and character of tires.
8. That immediate reports be made on the condition of all completed state and county highways and estimates made of the reconstruction, repair and maintenance of each.—D.

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With the Royalty in American Live Stock

By Prof. W. H. TOMHAVE, Pennsylvania State College.

The thirtieth International Live Stock Exposition, held at Chicago, November 30th to December 6th, eclipsed any of the previous expositions. A large number of entries were had in practically all of the classes of live stock. One of the noticeable features of all classes was the absence of "tail-enders," or a lot of stuff exhibited primarily for the purpose of swelling the number. Exhibitors have come to realize that to be able to win, the animals must be properly prepared and fitted.

The International has come to be looked upon as the grand windup of the American show circuit. It brings together for competition the herds that have been winners at the different fall circuits of the United States and Canada. The herds that annually come together at this show may be classed as

gained by such work is of immense value to these young men and is a line of work that should be encouraged.

Fat Cattle Show.—A greater and better collection of fat steers has probably never been assembled in any one place in America. Each of the four prominent beef breeders was well represented, and each contested strongly for the grand championship. Each breed of purebred steers is judged by ages, and the winners of each breed come before the judge for final rating for the grand champion honors. It has always been customary to secure a judge from England or Scotland to make the final rating for the grand championship, and to judge all classes of grades and cross-breeds. J. R. Campbell, of Scotland, judged these classes this year, and selected for his grand champion a yearling grade Angus exhibited by J. D.



POSING THE ANIMALS IS AN IMPORTANT FEATURE IN SHOWING LIVE STOCK.

the "survival of the fittest," and the winners for each year are picked to close the show season.

This great show is staged each year for the purpose of educating the farmer, breeder and student of live stock to go home and produce better stock. The animals on exhibition illustrate what may be accomplished by breeding and feeding the proper kind of live stock. It not only affords an opportunity to study the development of the live stock industry of America, but it brings in closer touch with one another all people interested in the different lines of live stock production.

Agricultural colleges from all parts of the United States and Canada are represented by exhibits of live stock and students' judging teams. These colleges have always been a strong factor in the upbuilding of this show in demonstrating what the science of feeding and breeding meant to the live stock world. They have at times been criticized for making an exhibit and competing with breeders for premiums, yet without them the International could not have been developed to its present high state of perfection.

The opening day is usually celebrated by the students' judging contests, in which thirteen teams took part this year. Most of the leading agricultural colleges were this year represented. The winning team came from the Texas Agricultural College and won over its nearest competitor by a wide margin. Each institution is represented by five men, who judge three rings each of cattle, horses, sheep and swine. Each student is required to give reasons for his placing before a committee of three judges appointed to correctly place each class of stock. The experience

McGregor, of Manitoba, Canada. This is the second time that the grand championship honors have gone to the Canadian breeder and feeder, and both times to a bullock fattened on grains besides corn.

Breeding Cattle.—Beef-breeding cattle of all breeds were present in large numbers. The interest in beef cattle in all parts of the United States seemed to have a tendency to bring the breeding stock out in larger numbers than usual. The Shorthorn breed led in numbers, which seems to indicate that this popular breed has established a strong foothold for itself with the American farmers. The Aberdeen-Angus and Herefords were not lacking in numbers and those that came out in each class were all grand representatives of their respective breeds. The Galloways and Red Polled, while not so numerous, had their admirers, and did justice to the breed which they represented.

Carload Lots of Fat Cattle.—The carload lots of fat and feeding cattle are an education in themselves. More than one hundred carloads were on exhibition and were sold at public auction after the premiums had been awarded.

The championships went to a carload of yearling Angus exhibited by Escher and Ryan, prominent beef-cattle feeders from Iowa. A carload of two-year-old Angus exhibited by this firm were rated as reserve champion, and were, by many, considered a better lot than the yearling cattle. The strong demand for light cattle decided the judges to award the premier honors to the lighter lot, and their rating was sustained when the champion load sold for \$13.25 per cwt. at public auction. The popular demand at the present time seems to be for the handy weight cattle, all of

which sold well. Heavy, three-year-old cattle were not in demand, and sold at a considerably lower price than the yearlings and two-year-olds.

Draft Horses.—Never before have the various draft breeds been so strong at the International. The Percherons have always been exhibited in large numbers. The number of home-bred horses in the different classes and the positions which they held signifies the rapid progress made in the horse-breeding industry of America. The largest number of entries were found in the two-year-old stallion class, which had a total of 149 horses from which the judges were forced to select the ten best individuals. The Clydesdales, Belgians and Shires were not so numerous, but what they lacked in numbers was made up in quality. A large exhibit of Clydesdales came from Canada, where they are rated as the popular breed. They met a worthy foe in the horses from the United States, and were in most classes forced to take a place below first honors. The Eastern part of the United States was well represented by exhibits from the Fairholme Farms, New Market, N. J.; Bedminster Farms, Far Hills, N. J.; and Conyngham Brothers, Wilkes-Barre, Pa., who were constant winners in their respective classes. The Belgians and Shires were stronger than in previous years and both breeds showed such a decided improvement in quality over past shows that they should become a strong favorite with the draft horse buyers.

Hogs.—More than 1,000 entries were made in the various hog classes. The fat barrow show was, without exception, the largest and of best quality that has ever been seen at the International. The Berkshire breed led in this division with a total of 109 entries in the three classes. The champion barrow honors went to John-Francis & Sons, New Lenox, Illinois, on a Poland China. The breeding classes were strong, but the general tendency seems to be to hold the breeding stock back on account of the danger of an outbreak of cholera, and the possibility of taking it into the herd at home. In the breeding classes, the Hampshires were exhibited in the largest numbers. While the other breeds were not so numerous, they were supreme in quality.

Sheep.—The entries in the sheep classes were about equal in numbers to those of 1912. This seems to indicate that the interest in the production of mutton is not on the decline because of tariff conditions. The number of entries in the purebred classes were well distributed among the prominent breeds with the Shropshires and Southdowns leading in the order named.

Association Meeting.—The annual meeting of the various Live Stock Record Associations are held during the week. This makes it possible for all the breeders of live stock to get in closer touch with the work of the association in which they are especially interested. It also affords an opportunity for all men to become better acquainted with the breeders of the same class of live stock.

The value of such an exposition cannot be estimated in terms of money. Its aim and object is educational. It annually draws thousands of farmers and breeders to Chicago who return year after year. It becomes their place to get new ideas and they go home with greater ambitions and ideals of what may be accomplished in live stock production. One of the encouraging features of this year's exposition was the large delegation of farmers and breeders from the eastern states, and the expression of breeders concerning the inquiries they are receiving for purebred stock from the farmers of the East.

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Winston of the Prairie

By HAROLD BINDLOSS

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SYNOPSIS OF PREVIOUS CHAPTERS.

Farmer Winston, having failed as a home-leader, desperate, accepts a proposal to simulate Lance Courthorne, an adventurer. Courthorne and his pals are thus able to carry thru some smuggling operations. In the clash with the police, Courthorne kills Trooper Shannon, leaving evidence pointing to Winston as the murderer. The scene shifts to Silverdale, founded by Colonel Barrington. The Colonel is worried over wheat operations and the coming advent of Lance Courthorne, cousin to Maud Barrington, niece and ward of Colonel Barrington, to claim his share of his father's estate. Maud Barrington is told of Courthorne's past misdeeds. Winston, meanwhile, has pushed on to Montana, being held and later released, for lack of evidence, by a government officer, who discloses the belief on the part of the police that Winston is the murderer of Trooper Shannon. A letter for Courthorne is opened by Winston. Complying with instructions therein, he meets and confers with a lawyer respecting Courthorne's inheritance at Silverdale, and following out his role as simulator of Courthorne, goes to Silverdale and is there received as graciously as could be expected. Some of his actions fail to tally with Courthorne's reputation. He wins the good will of Dane, one of the Colonel's advisers. The real Courthorne, who was supposed to have been drowned during the smuggling adventure, now reappears in Montana, inadvertently learns of his inheritance, and pieces together conclusive evidence that Winston has gone to Silverdale. Courthorne and Ally Blake, whose life he has blighted, agree to ignore each other's identity. Winston and Maud Barrington, caught by a blizzard while driving to Silverdale, find shelter in a deserted shed over night, where he acts the part of a considerate gentleman. Maud Barrington promises Winston to sow her land in wheat the following spring. Under criticism from the Colonel, Winston begins planting operations. Ferris, a young Englishman whom Winston, at Maud Barrington's request, had extricated from the clutches of a professional gambler, has just been asked to explain events to a company gathered at one of the Grange farms.

CHAPTER XIV.—(Concluded.)

There was a curious expression in Ferris's face, but as he glanced around at the rest, who were regarding him expectantly, he did not observe that Maud Barrington and her aunt had just come in and stood close behind him.

"Can't you see there's no getting out of it, Ferris?" said somebody.

"Well," said the lad in desperation, "I can only admit that Gordon is right. There was foul play and a pistol drawn, but I'm sorry that I can't add anything further. In fact, it wouldn't be quite fair of me."

"But the man from Silverdale?" asked Mrs. Macdonald.

"I'm afraid," said Ferris, with the air of one shielding a friend, "I can't tell you anything about him."

"I know Mr. Courthorne drove in that night," said the young English girl, who was not endowed with very much discretion.

"Courthorne," said one of the bystanders, and there was a momentary silence that was very expressive. "Was he concerned in what took place, Ferris?"

"Yes," said the lad with apparent reluctance. "Mrs. Macdonald, you will remember that they dragged it out of me, but I will tell you nothing more whatever."

"It seems to me you have told us quite sufficient and perhaps a trifle too much," said somebody.

There was a curious silence. All of those present were more or less acquainted with Courthorne's past history, and the suggestion of foul play coupled with the mention of a professional gambler had been significant. Ferris, while committing himself in no way, had certainly said sufficient. Then there was a sudden turning of heads as a young woman moved quietly into the midst of the group. She was ominously calm, but she stood very straight, and there was a little hard glitter in her eyes, which reminded one or two of the men who noticed it of those of Colonel Barrington. The fingers of one hand were also closed at her side.

"I overheard you telling a story, Ferris, but you have a bad memory and

left rather too much out," she said.

"They compelled me to tell them what I did, Miss Barrington," said the lad, who winced beneath her gaze.

"Now there is really nothing to be gained by going any further into the affair. Shall I play something for you, Mrs. Macdonald?"

He turned as he spoke and would have edged away, but that one of the men at a glance from the girl laid a hand on his shoulder.

"Don't be in a hurry, Ferris. I fancy Miss Barrington has something more to tell you," he said dryly.

The girl thanked him with a gesture. "I want you to supply the most important part," she said, and the lad, saying nothing, changed color under the glance she cast upon him. "You do not seem willing. Then perhaps I had better do it for you. There were two men from Silverdale directly concerned in the affair, and one of them at no slight risk to himself did a very generous thing. That one was Mr. Courthorne. Did you see him lay a single stake upon a card, or do anything that led you to suppose he was there for the purpose of gambling that evening?"

"No," said the lad, seeing she knew the truth, and his hoarse voice was scarcely audible.

"Then," said Maud Barrington, "I want you to tell us what you did see him do."

Ferris said nothing, and the girl laughed a little as she glanced at the wondering group, her voice was icily disdainful.

"Well," she said, "I will tell you. You saw him question a professional gambler's play to save a man who had no claim on him from ruin, and, with only one comrade to back him, drive the swindler, who had a pistol, from the field. He had, you admit, no interest of any kind in the game."

Ferris had grown crimson again, and the veins on his forehead showed swollen high. "No," he said almost abjectly.

Maud Barrington turned from him to her hostess as she answered, "That will suffice, in the meanwhile, until I can decide whether it is desirable to make known the rest of the tale. I brought the new song Evelyn wanted, Mrs. Macdonald, and I will play it for her, if she would care to try it."

She moved away with the elder lady, and left the rest astonished to wonder what had become of Ferris, who was seen no more that evening, while presently Winston came in.

His face was a trifle weary, for he had toiled since the sun rose above the rim of the prairie and when the arduous day was over and those who worked for him were glad to rest their aching limbs, had driven two leagues to Macdonald's. Why he had done so, he was not willing to admit, but he glanced around the long room anxiously as he came in, and his eyes brightened as they rested on Maud Barrington. They were, however, observant eyes, and he noticed that there was a trifle more color than usual in the girl's pale-tinted face, and signs of suppressed curiosity about some of the rest. When he had greeted his hostess he turned to one of the men.

"It seems to me you are either trying not to see something, Gordon, or to forget it as soon as you can," he said.

Gordon laughed a little. "You are not often mistaken, Courthorne. That

is precisely what we are doing. I presume you haven't heard what occurred here an hour ago?"

"No!" said Winston. "I'm not very curious if it does not concern me."

Gordon looked at him steadily. "I fancy it does. You see that young fool Ferris was suggesting that you had been mixed up in something not very creditable at the settlement lately. As it happened, Maud Barrington overheard him and made him retreat before the company. She did it effectively, and if it had been any one else, the scene would have been almost theatrical. Still, you know nothing seems out of place when it comes from the Colonel's niece. Nor if you had heard her would you have wanted a better advocate."

For a moment the bronze deepened in Winston's forehead, and there was a gleam in his eyes, but the thought passed as rapidly as it came, Gordon had seen it and smiled when the farmer moved away.

"That's a probability I never counted on," he thought. "Still, I fancy if it came about, it would suit everybody but the Colonel."

Then he turned as Mrs. Macdonald came up to him. "What are you doing here alone when I see there is nobody talking to the girl from Winnipeg?"

The man laughed a little. "I was wondering whether it is a good sign or otherwise when a young woman is, so far as she can decently be, uncivil to a man who desires her good will."

Mrs. Macdonald glanced at him sharply, and then shook her head. "The question is too deep for you—and it is not your affair. Besides, haven't you seen that indiscreet freedom of speech is not encouraged at Silverdale?"

In the meanwhile, Winston, crossing the room, took a vacant place at Maud Barrington's side. She turned her head a moment and looked at him.

Winston nodded. "Yes, I heard," he said. "Why did you do it?"

Maud Barrington made a little gesture of impatience. "That is quite unnecessary. You know I sent you."

"Yes," said Winston, a trifle dryly, "I see. You would have felt mean if you hadn't defended me?"

"No," said the girl, with a curious smile. "That was not exactly the reason, but we cannot talk too long here. Dane is anxious to take us home in his new buggy, but it would apparently be a very tight fit for three. Will you drive me over?"

Winston only nodded, for Mrs. Macdonald approached in pursuit of him, but he spent the rest of the evening in a state of expectancy, and Maud Barrington fancied that his hard hands were suspiciously unresponsive as she took them when he helped her into the Silverdale wagon—a vehicle a strong man could have lifted, and in no way resembling its English prototype. The team was mettlesome, the lights of Macdonald's homestead soon faded behind them, and they were racing with many a lurch and jolt straight as the crow flies across the prairie.

There was no moon, but the stars shone far up in the soft indigo, and the grasses whirled back in endless ripples to the humming wheels, dimmed to the dusky blue that suffused the whole in the merging sweep of earth and sky. The sweetness of wild peppermint rose thru the coolness of the dew, and the voices of the wilderness were part of the silence that was but the perfect balance of the nocturnal harmonies. The two who knew and loved the prairie could pick out each one of them. Nor did it seem that there was any need of speech on such a night, but at last Winston turned with a little smile to his companion, as he checked the horses on the

slope of a billowy rise.

"One feels diffident about intruding on this great quietness," he said. "Still, I fancy you had a purpose in asking me to drive you home."

"Yes," said the girl, with a curious gentleness. "In the first place, tho I know it isn't necessary with you, I want to thank you. I made Dane tell me, and you have done all I wished—splendidly."

Winston laughed. "Well, you see, it naturally came easy to me."

Maud Barrington noticed the trace of grimness in his voice. "Please try to overlook our unkindness," she said. "Is it really needful to keep reminding me? And how was I to know what you were, when I had only heard that wicked story?"

Winston felt a little thrill run thru him, for which reason he looked straight in front of him and shifted his grasp on the reins. Disdainful and imperious as she was at times, he knew there was a wealth of softer qualities in his companion now. Her daintiness in thought and person, and honesty of purpose, appealed to him, while that night her mere physical presence had an effect that was almost bewildering. For a moment he wondered vaguely how far a man might dare to go, with what fate had thrust upon him, and then with a little shiver saw once more the barrier of deceit and imposture.

"You believe it was not a true one?" he asked.

"Of course," said Maud Barrington. "How could it be? And you have been very patient under our suspicions. Now, if you still value the good-will you once asked for, it is yours absolutely."

"But you may still hear unpleasant stories about me," said Winston, with a note the girl had not heard before in his voice.

"I should not believe them," she said.

"Still," persisted Winston, "if the tales were true?"

Maud Barrington did nothing by halves. "Then I should remember that there is always so much we do not know which would put a different color on any story, and I believe they could never be true again."

Winston checked a little gasp of wonder and delight, and Maud Barrington looked away across the prairie. She was not usually impulsive and seldom lightly bestowed gifts that were worth the having, and the man knew that the faith in him she had confessed to was the result of a conviction that would last until he himself shattered it. Then, in the midst of his elation, he shivered again and drew the lash across the new horse's back. The wonder and delight he felt had suddenly gone.

"Few would venture to predict as much. Now and then I feel that our deeds are scarcely contrived by our own will, and one could fancy our parts had been thrust upon us in a grim joke," he said. "For instance, isn't it strange that I should have a share in the rousing of Silverdale to a sense of its responsibilities? Lord, what I could make of it, if fate had but given me a fair opportunity!"

He spoke almost fiercely, but the words did not displease the girl. The foreful ring in his voice set something thrilling within her, and she knew by this time that his assertions seldom went beyond the fact.

"But you will have the opportunity, and we need you here," she said.

"No," said Winston slowly. "I'm afraid not. Still, I will finish the work I see in front of me. That at least—one cannot hope for the unattainable."

Maud Barrington was sensible of a sudden chill. "Still, if one has

strength and patience, is anything quite unattainable?"

Winston looked out across the prairie, and for a moment the demons of pride and ambition rioted within him. He knew there were in him the qualities that compel success, and the temptation to stretch out a daring hand and take all he longed for grew almost overwhelming. Still, he also knew how strong the innate prejudices of caste and tradition are in most women of his companion's station, and she had never hidden one aspect of her character from him. It was with a smothered groan he realized that if he flung the last shred of honor aside and grasped the forbidden fruit it would turn to bitterness in his mouth.

"Yes," he said very slowly. "There is a limit which only fools would pass."

Then there was a silence for a while, until, as they swept across the rise, Maud Barrington laughed as she pointed to the lights that blinked in the hollow, and Winston realized that the barrier between them stood firm again.

"Our views seldom coincide for very long, but there is something else to mention before we reach the Grange," she said. "You must have paid out a good many dollars for the plowing of your land and mine, and nobody's exchequer is inexhaustible at Silverdale. Now I want you to take a check from me."

"It is necessary that I should?"

"Of course," said the girl, with a trace of displeasure.

Winston laughed. "Then I shall be prepared to hand you my account whenever you demand it."

He did not look at his companion again, but with a tighter grip than there was any need for on the reins, sent the light wagon jolting down the slope to Silverdale Grange.

CHAPTER XV.

The Unexpected.

The sun beat down on the prairie, which was already losing its flush of green, but it was cool where Maud Barrington and her aunt stood in the shadow of the bluff by Silverdale Grange. The birches, tasseled now with whispering foliage, divided the homestead from the waste which would lie white and desolate under the parching heat, and that afternoon it seemed to the girl that the wall of green shut out more than the driving dust and glare from the Grange, for where the trees were thinner she could see moving specks of men and horses athwart the skyline.

They had toiled in the sun-baked furrow since the first flush of crimson streaked the prairie's rim, and the chill of dusk would fall upon the grasses before their work was done. Those men who bore the burden and heat of the day were, the girl knew, helots now, but there was in them the silent vigor and something of the somberness of the land of rock and forest they came from, and a time would come when others would work for them. Winning slowly, holding grimly, they were moving on, while, secure in its patrician tranquillity, Silverdale stood still, and Maud Barrington smiled curiously as she glanced down at the long white robe that clung very daintily about her and then towards her companions in the tennis field. Her apparel had cost many dollars in Montreal, and there was a joyous irresponsibility in the faces of those she watched.

"It is a little unequal, isn't it, aunt?" she said. "One feels inclined to wonder what we have done that we should have exemption from the charge laid upon the first tiller of the soil that we, and the men who are plodding

thru the dust there, are descended from."

Miss Barrington laughed a little as she glanced with a nod of comprehension at the distant toilers, and more gravely towards the net. Merry voices came up to her thru the shadows of the trees as English lad and English maiden, lissom and picturesque in many-hued jackets and light dresses, flitted across the little square of velvet green. The men had followed the harrow and seed-er a while that morning. Some of them, indeed, had for a few hours driven a team, and then left the rest to the hired hands, for the stress and sweat of effort that was to turn the wilderness into a granary was not for such as they.

"Don't you think it is all made up to these others?" she asked.

"In one sense—yes," said the girl. "Of course, one can see that all effort must have its idealistic aspect, and there may be men who find their compensation in the thrill of the fight, and the knowledge of work well done when they rest at night. Still, I fancy most of them only toil to eat, and their views are not revealed to us. We are, you see, women—and we live at Silverdale."

Her aunt smiled again. "How long is it since the plow crossed the Red River, and what is Manitoba now? How did those mile furrows come there, and who drove the road that takes the wheat out thru the granite of the Superior shore? It was more than their appetites that impelled those men, my dear. Still, it is scarcely wise to expect too much when one meets them, for the one could feel it is presumptuous to forgive its deficiencies, the Berserk type of manhood is not conspicuous for its refinement."

For no apparent reason Maud Barrington evaded her aunt's gaze. "You," she said dryly, "have forgiven one of that type a good deal already, but at least, we have never seen him when the fit was upon him."

Miss Barrington laughed. "Still, I have no doubt that, sooner or later, you will enjoy the spectacle."

Just then, a light wagon came up behind them, and when one of the hired men helped them in they swept out of the cool shade into the dust and glare of the prairie, and when some little time later, with the thud of hoofs and rattle of wheels softened by the bleaching sod, they rolled down a rise, there was spread out before them evidence of man's activity.

Acre by acre, gleaming chocolate brown against the gray and green of the prairie, the wheat loam rolled away, back to the ridge, over it, and on again. It was such a breadth of sowing as had but once, when wheat was dear, been seen at Silverdale, but still across the foreground, advancing in echelon came lines of dusty teams, and there was a meaning in the furrows they left behind them, for they were not plowing where the wheat had been. Each wave of lustrous clouds that rolled from the gleaming shares was so much rent from the virgin prairie, and a promise of what would come when man had fulfilled his mission and the wilderness would blossom. There was a wealth of food stored, little by little during ages past, counting, in every yard of the crackling sod to await the time when the toiler with the sweat of the primeval curse upon his forehead should unseal it with the plow. It was also borne in upon Maud Barrington that the man who directed those energies was either altogether without discernment, or one who saw further than his fellows and had an excellent courage, when he flung his substance into the furrows while wheat was going down. Then as he

hired man pulled up the wagon she saw him.

A great plow with triple shares had stopped at the end of the furrow, and the leading horses were apparently at variance with the man who, while he gave of his own strength to the utmost, was asking too much from them. Young and indifferently broken, tortured by swarming insects, and galled by the strain of the collar, they had laid back their ears, and the wickedness of the bronze strain shone in their eyes. One arose almost upright amid a clatter of harness, its mate squealed savagely, and the man who loosed one hand from the head-stall flung out an arm. Then he and the pair whirled round together amid the trampled clods in a blurred medley of spume-flecked bodies, soiled stained jean, flung-up hoofs, and an arm that swung and smote again. Miss Barrington grew a trifle pale as she watched, but a little glow crept into her niece's eyes.

The struggle, however, ended suddenly, and hailing a man who plodded behind another team, Winston picked up his broad hat, which was trampled into shapelessness, and turned towards the wagon. There was dust and spume upon him, a rent in the blue shirt, and the knuckles of one hand dripped red, but he laughed as he said, "I did not know we had an audience, but this, you see, is necessary."

"Is it?" asked Miss Barrington, who glanced at the plowing. "When wheat is going down?"

Winston nodded. "Yes," he said. "I mean, to me; and the price of wheat is only one part of the question."

Miss Barrington stretched out her hand, the her niece said nothing at all. "Of course, but I want you to help us down. Maud has an account you have not sent in to ask you for."

Winston first turned to the two men who stood by the idle machine. "You'll have to drive those beasts of mine as best you can, Tom, and Jake will take your team. Get them off again now. This piece of breaking has to be put thru before we loose again."

Then he handed his visitors down, and Maud Barrington fancied as he walked with them to the house that the fashion in which the damaged hat hung down over his eyes would have rendered most other men ludicrous. He left them a space in his bare sitting-room, which suggested only grim utility, and Miss Barrington smiled when her niece glanced at her.

"And this is how Lance, the profigate, lives!" said she.

Maud Barrington shook her head. "No," she said. "Can you believe that this man was ever a prodigal?"

Her aunt was a trifle less astonished than she would once have been, but before she could answer, Winston, who had made a trifling change in his clothing, came in.

"I can give you some green tea, tho I am afraid it might be a good deal better than it is, and our crockery is not all you have been used to," he said. "You see, we have only time to think of one thing until the sowing is thru."

Miss Barrington's eyes twinkled. "And then?"

"Then," said Winston, with a little laugh, "there will be prairie hay to cut, and after that the harvest coming on."

"In the meanwhile, it was business that brought me here, and I have a check with me," said Maud Barrington. "Please let us get it over first of all."

Winston sat down at a table and scribbled on a strip of paper. "That," he said gravely, "is what you owe me for the plowing."

There was a little flush in his face as he took the check the girl filled in, and

both felt somewhat grateful for the entrance of a man in blue jean with the tea. It was of very indifferent quality, and he had sprinkled a good deal on the tray, but Winston felt a curious thrill as he watched the girl pour it out at the head of the bare table. Her white dress gleamed in the light of a dusty window, and the shadowy cedar boarding behind her forced up each line of the shapely figure. Again the maddening temptation took hold of him, and he wondered whether he had betrayed too much when he felt the elder lady's eyes upon him. There was a tremor in his brown fingers as he took the cup held out to him, but his voice was steady.

"You can scarcely fancy how pleasant this is," he said. "For eight years, in fact ever since I left England, no woman has ever done any of these graceful little offices for me."

Miss Barrington glanced at her niece, and both of them knew that, if the lawyer had traced Courthorne's past correctly, this could not be true. Still, there was no disbelief in the elder lady's eyes, and the girl's faith remained unshaken.

"Eight years," she said, with a little smile, "is a very long while."

"Yes," said Winston, "horribly long, and one year at Silverdale is worth them all—that is, a year like this one, which is going to be remembered by all who have sown wheat on the prairie, and that leads up to something. When I have plowed all my own holding, I shall not be content, and I want to make another bargain. Give me the use of your unbroken land, and I will find horses, seed, and men, while we will share what it yields us when the harvest is in."

The girl was astonished. This, she knew, was splendid audacity, for the man had already staked very heavily on the crop he had sown, and while the daring of it stirred her she sat silent a moment.

"I could lose nothing, but you will have to bring out a host of men, and have risked so much," she said. "Nobody but you and me and three or four others in all the province is plowing more than half his holdings."

The suggestion of comradeship set Winston's blood tingling, but it was with a little laugh he turned over the pile of papers on the table, and then took them up in turn.

"Very little plowing has been done in the tracts of Minnesota previously alluded to. Farmers find wheat cannot be grown at present prices, and there is apparently no prospect of a rise," he read. "The Dakota wheat-growers are mostly following. They can't quite figure how they would get eighty cents for the dollar's worth of seeding this year. Milling very quiet in Winnipeg. No inquiries from Europe coming in, and Manitoba dealers, generally, find little demand for harrows or seeders this year. Reports from Assiniboia seem to show that the one hope this season will be mixed farming and the neglect of cereals."

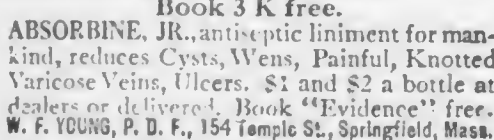
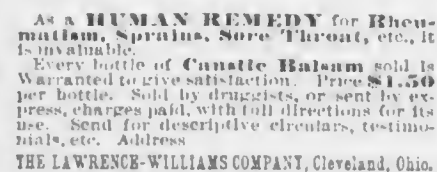
"There is only one inference," he said. "When the demand comes, there will be nothing to meet it with."

"When it comes," said Maud Barrington quietly. "But you who believe it will stand alone."

(To be continued.)

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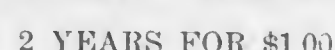


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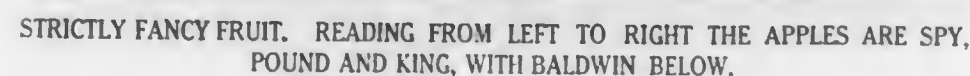
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By Abram Bunn,
Bedford County, Pa.

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IN FUTURE ORCHARD WORK. (Continued on page 4.)

Farm Manure.

By JOHN H. VOORHEES, New Jersey Experiment Station

What We Are Losing Thru Neglect.

One of the most valuable assets of the American farmer is the manure pile. Because this asset has not been utilized to the best advantage is one reason why the farmers, together with all intelligent citizens who are naturally interested in the future progress of farming in America, are awakening to the fact that unless prompt measures are taken for improvement in this and other directions, our supremacy as an agricultural country will be wrested from us. There are two reasons why this is so: First, because the manure pile represents part of the fertility that has been removed in crops; and second, because cropping without manure has resulted in the rapid using up of the humus, causing the soils to become less productive.

The quantity of manure made will depend upon the kind of farming, whether it is grain farming, in which whole grains are sold and only the straw retained, or whether it is stock farming and the products fed to the animals. In the first case, the manures made are only sufficient to return to the soil a small part of the constituents removed and of the organic matter destroyed in the growing of the crop; in the second case, the quantities made may be sufficient to more than return the constituents retained in the crops, and to replace the humus destroyed in their growth, provided all of the fertility elements are saved in the manure and the manure carefully handled.

As a matter of fact, the actual returns to the soil in fertility elements and in humus-forming materials are very much less than is necessary to retain the original fertility of the soil, and hence there is a continued depletion of the soil constituents. This is especially noticeable in the northwest, where the average yields of grain are constantly falling. This is due to two primary causes, aside from the actual amounts that may be removed in crops: The first is due to the fact that a large proportion of the very best forms of the constituents contained in the manures when made are lost, because the liquid portion is not retained; and second, because the manures are not so handled as to prevent rapid fermentation, and the escape of the most valuable constituent, ammonia, into the air, as well as the destruction of large amounts of organic matter.

While much progress has been made in the care and handling of manures in recent years, because of the knowledge that we have gained as to their composition, characteristics and usefulness, nevertheless still greater progress in this respect must be made before this valuable product is fully utilized.

The farmer must be made to realize that a well-fed dairy cow will, on the average, produce 12½ tons of manure per year, and that this product will contain, on the average, 117 lbs. of nitrogen, 77 lbs. of phosphoric acid, and 89 lbs. of potash. This is enough, if all the constituents in it are used, to grow nearly 70 bushels of wheat, with the accompanying straw. These have come from farms somewhere; if they are not returned, the power of the soil to produce crops is lessened by the equivalent of wheat indicated. If the farmer wishes to return these in the form of commercial fertilizers in available forms, he would have to pay over \$30 at present prevailing prices of 23 cents per pound for nitrogen, and 45

cents per pound for phosphoric acid, and 5 cents per pound for potash.

Of course, it does not follow that the constituents in the manure would be quickly available, or as immediately useful as the constituents purchased in commercial fertilizers, yet the probabilities are that on the average their value to the farmer would be as great, or greater, than of those in the commercial fertilizers, because associated with the constituents is a large proportion of vegetable matter, which, in its decay, exerts a favorable influence in maintaining "condition" of soils, and prevents the rapid loss of humus, which is so important in all soils. There are thousands of acres even in our prairie states which are gradually, although surely, becoming less productive, not because of a total shortage of the necessary minerals, but because the organic vegetable matter is being rapidly depleted. This characteristic of manures is well recognized by the practical man, although he does not realize as fully as he should its importance in maintaining the active fertility of the soil.

These conditions are due to a lack of appreciation of the value of manures, and the important part they play in preventing such losses, aside from the losses that may be due to irrational systems of rotation. If we are to maintain the fertility of our good soils, or to build up poor soils, there is no more



MAKING USE OF BLIGHTED CHESTNUT TREES.

promising line than the judicious combination of stock and grain growing, together with the proper care and use of our farm manures. By this means the greater part of the produce is used on the farm, and the constituents required to grow the crops are returned again in large part, provided the manures are properly cared for and used.

It is quite evident from a survey of the conditions in our eastern states that the farmers do not realize as fully as they should the advantages to be derived from such a method of farm practice, and the necessity for care in the handling and use of the manures made. Aside from dairy farming, but few animals are kept; grain and hay are sold, resulting in the greatest loss of fertility, and even where animals are kept, but little attention is given the care of manures. The farmers do not realize the losses that may occur in the handling of manures; they do not see the fertility that is carried away by the liquid that runs under the barn or away from the barnyard. It has been clearly shown, however, that manures thrown into the open yard and allowed to remain there, subject to the rains that fall, are liable to lose at least one-half of their content of nitrogen, one-third of their phosphoric acid, and one-

half of their potash, which would mean a loss from the farm constituents alone from each dairy cow that would cost \$14.50, in addition to the loss of about 40 percent of the organic matter, so essential in improving the physical and mechanical character of soils. Of the constituent nitrogen, it has been shown also that the loss sustained falls upon the soluble and thus most valuable portions, those that plants can obtain the quickest.

The nitrogen and potash which are contained in the liquid portion are in quite as good form for use as the best contained in the commercial fertilizers, which the farmer is so eager to buy to supplement the needs of his worn-out soils.

It may not be possible or practical to return to the soil, without loss, all the manures made. The aim should be to make the conditions as favorable as possible, to adopt methods which will prevent the escape of the valuable constituents, either by too hot fermentation or by leaching. Wherever practicable, the greatest saving is effected by applying the manure as fast as made, as by this method the least labor is required, fermentation practically ceases when the manure is spread, and any leaching that occurs carries the constituents into the soil and not away from it. When immediate spreading is not practicable, the manure (the total product, solid and liquid), should be kept in a tight pit or under cover, subject to the tramping of the stock. If too much litter has not been used, the liquid portion will prevent loss from rapid fermentation. If an abundance

Farmers know the value of good manure, and the time is coming when they will use all that they make, instead of losing more than one-half its value. When that time comes, we shall hear less about depleted soils and decreased yields.

USING BLIGHTED CHESTNUT TREES.

The illustration on this page shows a trio of woodmen that has done much to save blighted chestnut trees from absolute loss. The group includes Wesley Shoemaker, his son Charles, and Harry Harbaugh, of Franklin county, Pa. They have cut many thousands of chestnut telegraph poles for Amos Gible, of Beaver county, in the past three years. These men have saved thousands of dollars for the farmers, as the blight has killed or injured almost every chestnut tree in this section. Two years after being killed by the blight the trees are worthless, except for fire-wood. All trees cut early for poles are just so much saved.—G. W. C. Lancaster Co., Pa.

SUBSOILING WITH DYNAMITE.

My experience in agricultural dynamite blasting has called out numerous queries on subsoiling for alfalfa and other deep-rooted plants. I have given closer attention recently to that particular subject. The more experience I have the more thoroly I am convinced of the effectiveness and utility of such subsoiling; also that more thought and study should enter into it to secure the best results. Any one may be able to put off a blast, but it requires experienced work to secure best results. Considerable powder may be wasted, either by using too much or too little, the hole being too shallow or too deep, etc., of economy or effectiveness; either overdoing or under-doing what is aimed at. I am often asked "how much powder do you use at each blast." My answer must be that I do not know until I test two or three holes.

Last spring I sowed an acre of my land with alfalfa, on a very heavy clay subsoil having a hard pan caused by a continuous plowing for generations at about six to seven inches deep. All over the country those "plow zones" are encountered. It is not natural "hard pan," but zones caused by plowing season after season at a certain depth so that water is held up and cannot penetrate it unless assisted. Consequently, the roots can go no further, and in drouth they dry up and wither. Now, this is one of the chief causes why alfalfa and other deep-rooted plants give discouraging results. Any deep-rooted plant must have moisture to penetrate beyond those zones. This hard pan must be broken up, and it can be done in no other way or plan except by the expensive method of subsoiling by plowing or dynamiting. We can take our choice, but for depth and economy, dynamiting is far preferable. Many think that alfalfa will draw its own moisture irrespective of conditions, but it cannot.

Alfalfa is so profitable and continuous that no one should hesitate to place the soil in the best possible condition. The first season is the most critical. I first plowed six inches deep last spring. I disked it twice and scattered 2,500 pounds of air-slacked lime on and rolled and harrowed. Then I put on a liberal dressing of manure and subsoiled it with dynamite, ranging the blasts in distance from 10 to 20 feet. The land blasted at intervals of 10 feet proved the best. Then I sowed one bushel of oats and harrowed; then rolled and sowed 15 pounds of inoculated alfalfa

seed. It survived one month of severe drouth at the start and has come on well. I would prefer putting on the manure after, instead of before subsoiling, so that if any blast should accidentally remove any of the surface, the manure would help counteract the cold subsoil thrown up. This is one point on which the blaster is often blamed by the uninitiated. The latter always think that each blast should be a veritable volcano, whereas the opposite is the case. All the energy should be concentrated below instead of at the surface.

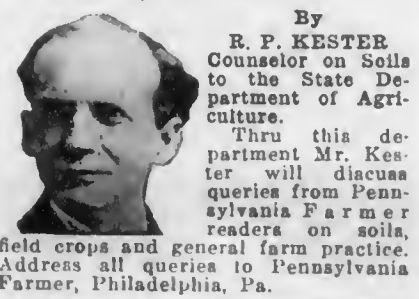
I have cut my alfalfa twice, to insure the killing of weed seed and to make the plants stool out or spread. I am often asked when to subsoil. Almost any time will do when you can get a hole in the ground, whether hot or cold, wet or dry, for if the ground requires subsoiling it is always in condition to blast below. The wet soil at the surface does not materially interfere. Tree planting requires a variation in blasting by leaving a hole (not too large) for the tree and some manure.—Thomas Stephens, Bucks Co., Pa.

AN UNUSUAL FARM CROP.

Maryland's profitable farms are not all plowed. Some are dredged! Shellfish exhibits, under direction of Director Earle, at the recent Maryland Week show in Baltimore, were another proof that those fortunate enough to live in this state enjoy many privileges. The exhibit covered the whole growth of the oyster from the time it was spawned until it was eaten. There were oysters

The uninitiated needed the towel, too. I feel sure that there were many who had never before tasted oysters as they grow, sweet and fresh, in our own Chesapeake, nor who realized the tremendous value of the oyster to Maryland.—Evelyn Harris, Md.

Farm Counselor Department



Northern County Notes.

The farmers and their wives in the north-tier counties in Pennsylvania are among the liveliest and most wide awake in the state. The meetings are well attended, halls being filled to capacity at most sessions. The questions and discussions show an intelligence that is pleasing.

Different companies are establishing new plants for handling milk. The competition thus existing keeps the price from going lower than it is, but it still is not high enough. As in other counties, there are many unworked farms here, rather contradicting the charge that farming is producing a class of

Pennsylvania State Grange, held in Reading December 9-12, was attended by a large number of intelligent, earnest delegates. The subjects claiming the attention of the meeting were considered calmly and judiciously in a broad-minded manner. There was a noticeable lack of class consciousness, and no endeavor on the part of speakers to excite class prejudice. While there were differences of opinion on some subjects, all were willing to trust to the judgment of the majority to bring the greatest good to the greatest number.

Among the things considered and which will receive the best endeavors of the grange to bring about are, a practical system of road improvement; an adaptation of the public school system that will better meet rural needs; a better understanding and a realization of mutual interest between city and country people, resulting in greater co-operation, social and commercial; increased efforts to suppress the liquor traffic and the use of intoxicants. It was ordered by resolution that a committee be appointed to study and recommend practical methods of improving sanitary conditions in and about farm houses. A resolution favoring equal suffrage was adopted, altho some adverse sentiment was expressed.

Winter Reading.

Planning for the winter's reading in the farm home is as much a duty as planning the work for the season. Several conditions make it easier to learn by study at this time of year. Every farm home should be supplied with the best farm papers. This class of journals

Don't forget the little ones, and when providing for them try to recall the kind of literature that appealed to you. Reading aloud in the family is a splendid practice. Oral reading will soon be a lost art unless it be taken up in the home. The schools are so crowded for time that it is not possible to give enough practice to this valuable exercise. In this way the child may be led to appreciate and understand the best in literature, as well as to develop the habit of reading, something that all should have and enjoy.—R. P. K.

It not infrequently happens that the man who hates to pay his poll tax or work it out is the fellow who would like to make the longest speech at the good roads convention.

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FISH COMMISSION EXHIBIT AT "MARYLAND WEEK" SHOW, WHERE SAMPLE OYSTERS WERE HANDED OUT.

raised on the bottle, on boots and sleeves, on any old thing. The difference and value of planted and natural oyster beds were also shown. Terrapin and turtles were exhibited in a large tub, and one tiny fellow who paddled around was minus all his "toe nails." We were told that he had been accidentally scalded about eight months previous, but aside from that and the fact that he had not grown any, he was all right.

Many interested city folk were caught in the net artistically draped around the booth at the top of the exhibit. The crowning feature, aside from the interesting illustrated lecture given by Mr. Earle, was the free distribution of oysters, served in their "bare feet" while you waited. Two expert "shuckers" were kept busy opening the delicious bivalves, while Mr. Earle handed the visitors first a toothpick to get him out with, then some salt and pepper, then a towel to wipe fingers with.

corpulent aristocrats out on the farms. A greater share of the consumer's dollar must reach the farm before agriculture is the profitable business some people claim it to be. The most suggestive thing in this connection is that wherever we find the best community spirit and the most co-operative effort, there is the greatest prosperity and the most contented farming community.

Pennsylvania State Grange.

Among the foremost agencies in the work of improving agriculture and everything connected with it is the grange. Misunderstood and maligned as it often is, it has persistently and consistently labored to better agricultural conditions. In this work it has kept in mind what many other agencies, laboring for the same end, have failed to realize; that the farmer is more than the farm; that the institutions of the country—educational, social, religious—are first in importance.

The forty-first annual meeting of

is among the most reliable and carefully edited we have. Editors of reputable farm papers are today men who know the business and know how to censorize the matter submitted for publication. Books treating on your special line of work are plentiful and contain the latest and best instruction. There is no reason why men and women should cease to study because they have passed beyond their school days.

State and National Departments of Agriculture are glad to send their bulletins, containing the latest information on every line. These are worthy of careful study and may be had for the asking. The same may be said of the bulletins from the Experiment Stations. While comparatively few can visit these institutions, it is possible for all to get the results of their work and research in their bulletins. Send them your name and request. Magazines, books and journals, for entertainment and culture, should be provided also.

Horticulture

THE APPLE OF TOMORROW.

(Continued from 1st page.)

than, Norton's Melon and Yellow Newtown (Albemarle Pippin).

In Class "B" would fall the Akin, Winter Banana, Delicious, Hubbardston, Canada Red, Rome Beauty, Stayman Winesap, King of Tomkins County Winesap and Sweet Paradise.

In Class "C" would fall the Northern Spy, Wagener and White Pippin.

There is still another class of apples which it will pay to try for boxing before finally consigning them to the barrel or top-working the trees. But for this purpose only the handsomest of the crop should be boxed. In this class we find the mountain Baldwin, Talman Sweet, Summer Rambo, English Rambo and a few others. Also there are undoubtedly some less well-known varieties whose quality and beauty indicate the box as the place for them.

In selecting varieties for the orchard a number of things must be considered. The orchard should contain varieties which blossom at the same time, and at least one variety which is a heavy maker of pollen, so as to insure cross-pollination. It is a fact, not generally known, but of vital importance to the orchardist, that about two-thirds of the varieties of apples are self-sterile; that is, they must be cross-pollinated by another variety in order to set fruit at all; this work being done by the bees and insects. Also, by selecting varieties which blossom at the same time, spraying to control the codling-moth may be done in a single operation for the entire orchard.

Moreover, there are varieties of fine fruit which require less care in the handling for boxing, while others must be nursed thruout the operation; and the man who is going into orcharding, unless he is sure of his ability and willingness to give the high care required, ought to confine himself to planting varieties requiring the least care.

Also, a broad general line, running thru the center of Pennsylvania, and taking in as a single district, the mountains north of that line, and as another district, the mountains south of it, separates the varieties mentioned into their natural habitats. North of the line some varieties yield much better than south of it; south of the line some varieties yield better than north. Other things being equal, those varieties which yield best should be grown in each district.

To make this matter more specific, those varieties which are at their best in yield north of this line are Baldwin, Spitzenberg, Hubbardston, Spy, Talman, King and Wagener; those which yield at their best south of the line are Rome Beauty, Stayman Winesap and White Pippin. Grimes and Jonathan are equally at their best in both districts.

Indications are that the Akin, Banana, Canada Red, Rome Beauty, Stayman Winesap, Winesap, Norton's Melon, and Hubbardston have a decided tendency to annual bearing, a tendency which may be strengthened by careful thinning of the first few crops.

Akin, Banana, Grimes, Jonathan, Norton's Melon, Rome Beauty, Stayman Winesap, Hubbardston and Wagener come into bearing at comparatively an early age: Baldwin, Spitzenberg, Spy, Canada Red, King, White Pippin, Winesap and Yellow Newtown come in at later stages, some of them, such as Spy and Baldwin, at such a late stage as to make them undesirable, except where

they yield very heavily.

Banana, Grimes, Talman and Winter Paradise, being yellow apples, show marks and bruises easily. In the southern district, particularly, the tender skin requires extra care in handling the Spy, King, Delicious, and Hubbardston.

In the southern district, also, the Spitzenberg and King are shy yielders; and in both districts, except under very favorable conditions, the Yellow Newtown is long coming into bearing and then yields lightly.

The Jonathan and Grimes always require special handling; the former must be picked early and put at once into cold storage to prevent the develop-

The Canada Red looks like an unusually handsome, medium-sized Baldwin, but has higher eating quality.

The Wagener is an early bearer of good-looking fruit of very high quality. It should be in every orchard, if possible, not only because of its market value, but because it is a strong pollinator and helps the other varieties to set fruit.

For the orchardist who is prepared to take extra care of his crop, the Grimes, Jonathan and Winter Banana offer splendid chances for profit. All are fairly heavy bearers, come into bearing at an early age, and bring top-notch prices where properly handled. The

Wagener is an early bearer of good-looking fruit of very high quality. It should be in every orchard, if possible, not only because of its market value, but because it is a strong pollinator and helps the other varieties to set fruit.



BOX APPLE EXHIBIT MADE BY WALTER B. HARRIS, KENT CO., MD., AT RECENT "MARYLAND WEEK" SHOW.

ment of the black spot, which ruins its appearance; and the latter must be put into cold cold storage to prevent wilt which destroys its salability.

Of the apples in Class "A," the Norton's Melon alone, with fair yield, develops no dangerous characteristics and will stand fairly rough handling.

Of the apples in Class "B," the Akin, Canada Red, Rome Beauty and Stayman Winesap combine great beauty with good quality and high yield; and all of these will stand fairly rough treatment. The Stayman will stand, in fact, as rough handling as the Ben Davis, is a

Winter Banana stands in a class by itself. While its quality is not so high as that of the Grimes or the Jonathan, it is high enough to satisfy the buyer who is attracted by its beauty to part with the heavy price it exacts of the consumer. In the mountain district the Banana develops unusual quality and beauty. The apple is of a handsome yellow, slightly blushed with red on one side, and so heavily waxed that it at once attracts attention. Both for the eastern market and for export trade it has a great future. It requires careful handling, tho, contrary to the general



INTERIOR OF AGRICULTURAL TENT AT PENNSYLVANIA STATE COLLEGE FAIR.

heavy producer, handsome, and has so far developed no faults in fruit or in tree. The Rome, also, is a heavy yielder of handsome fruit, its crops averaging at least with those of the York Imperial, with much greater beauty and higher quality. The Hubbardston bears heavy crops in alternate years, and is credited with being an excellent pollinator of other varieties.

The Akin has a beauty all its own, an unusual red, strikingly handsome, and with enough quality to satisfy the buyer who takes it for its beauty; in fact, its quality places it really above the other apples of Class "B."

believe, it will stand rougher usage than the Grimes Golden.

Perhaps it is dangerous to prophesy, but, basing the prophecy on beauty and quality, it is fairly safe to say that of the list given the following varieties are destined to a permanent place in the bushel box, and to high prices if properly handled, namely: Akin, Banana, Delicious, Spitzenberg, Grimes, Jonathan, Norton's Melon, Stayman Winesap, Wagener, White Pippin and Yellow Newtown. Grafting stock can be obtained from almost any good orchard.

(To be concluded.)

MARYLAND APPLES.

The apples here illustrated were a part of the prize exhibit of Walter B. Harris, Bloomingneck Farm, Kent county, Md., during Maryland Week. Out of 26 entries, this enterprising farmer received 18 firsts and 2 seconds. They tell us that his wife selected most of the fruit on which he won his prizes, proving that a woman will recognize a pippin too. Mr. Harris had plate, box and barrel exhibits, and scattered thru them were tiny blue cards telling all about Bloomingneck Farm and apples. He realized the wonderful possibilities of the show as an advertising medium, and worked his plans to fit in. A barrel to "sample" was handy, and besides the value of the prizes, the value of the prize stock was also increased.—E. H.

NEW JERSEY JOINT HORTICULTURAL MEETINGS.

The annual joint meeting of the New Jersey Horticultural Society and the New Jersey State Board of Agriculture was held at Trenton December 9 to 12. Joseph Barton, of Marlton, the retiring president, in his report, stated that the past year was one of varied results for the state horticulturists owing to varied crop conditions. In some South Jersey sections there were enormous apple crops, while in other sections small crops were recorded. Peaches, in many places, also suffered. But the farmer has received higher prices for his produce than ever before.

Howard G. Taylor, the secretary of the society, reported over 550 names of bona-fide members on the books in 1900. Even at that, the membership was less than it should be, particularly in the northern counties of the state. He suggested the advisability of interesting the boys and girls in fruit growing in line with the popular "corn-growing" clubs, by offering suitable prizes at the next gathering for boys and girls who can pack apples successfully either in standard boxes or in smaller ones to be sent by parcel post.

According to the treasurer, George E. DeCamp, the society is now in the best financial condition since its organization. The balance on hand at the beginning of the year was \$1,476.22. The receipts have amounted to \$3,447.16 and the expenditures were \$1,559.61, leaving a balance of \$1,787.55.

Fruit Report.—Lemuel Black submitted the general report on fruit. He reported variable conditions, but on the whole, many good crops of fruit. Strawberries bloomed from April 1 to 15; peaches from March 5 to 15; pears, from March 15 to April 1; apples, from April 5 to 15. In Gloucester county conditions were not up to the average, owing to very mild winter, late spring frosts and development of "scab" with a detrimental effect. Apples, in Monmouth county, were disappointing. An average crop was expected, but a frost in May did serious damage to the newly-set fruit. In Bergen county, however, the apple crop was heavy and the quality exceptionally fine. The peach and pear crops were heavy, but plums were rather scarce. The berry and grape crops were satisfactory, but the production of cherries fell below the average.

Farm Bureaus.—A leading feature of the week's sessions was the recognition given to the work of the farm bureaus. A review of the extensive work accomplished by the Mercer County Farm Bureau was given by John H. Hankinson, agent of that organization. He told of experiments which have proved of advantage and profit; of interest taken in boys' corn clubs, and steps

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taken to secure good seed potatoes. He referred also to the proposed public market for Trenton, which was fathered by the Farm Bureau and the agricultural committee of the Chamber of Commerce. Professor Alva Agee, acting state farm superintendent, made a plea for sufficient state appropriations with which to carry on the work of farm extension. He stated that because of limited money at his command he had been obliged to deny requests for several farm institutes. H. W. Gilbertson, superintendent for Sussex county, gave a very interesting account of his work.

A resolution was passed calling on the legislature to make sufficient appropriations with which to carry on needed agricultural work. It was stated that New Jersey is far behind other states in the promotion of farming, and some of New Jersey's young men are compelled to go to the colleges of other states in order to receive their agricultural training. No trouble was experienced, one man stated, in obtaining an appropriation of \$250,000, a great part of which has been, and will be used for a state exhibition at the Panama Exposition. An inspection of the appropriation law for the present fiscal year shows that more than \$240,000 is available for the purposes of the State Agricultural College, the Experiment Station, and for other uses that will benefit the farmer.

A committee to attend the state conference at Washington was named. The State Horticultural Society elected officers for the ensuing year as follows: President, James C. Hendrickson, of Middletown; vice-president, C. Fleming Stanger, of Glassboro; secretary, Howard G. Taylor, Riverton (re-elected); treasurer, George E. DeCamp, Roseland.

A large and varied list of prizes was awarded. The Trenton Times state apple prize was awarded to John H. Barclay, of Cranbury. The prize was for the best three boxes of apples grown in the state, and went to Mr. Barclay for the third time in succession. Mr. Barclay was also awarded the B. G. Pratt prize cup for the best five boxes of apples grown in the state. He also won the Vreeland Chemical Company prize for the best barrel of apples grown in the state, and the Meehling prize for the best bushel. The Times prize for the best two boxes of apples grown in the counties of Bucks, Pa., or Mercer. N. J., was awarded to Lemuel Black, of Hightstown. Other prize winners for apples were Fred Satterthwaite, John Van Mater, Henry Eggers, J. Howard Lippincott and George Redshaw.

George Harris, of Bucks county, Pa., won the prize for the best 10 ears of corn, any variety, open to boys under 18 years attending school and residents of Bucks or Mercer counties. Hilda Rogers, of Harborton, won the second prize. Lillian Drake, of Pennington, won first prize for the best ten potatoes; George Phillips, of Titusville, the best pumpkin, any variety, and Harry Beers, of Hamilton, the best squash.

Ormsby B. Scudder, 17 years old, of Titusville, and Robert Mack, 10 years old, of Robbinsville, won first and second prizes respectively in the corn-growing contest, and were given the entire expenses of a trip to Washington, D. C., where they were delegates to the National Convention of Corn Growers. Miss Hilda Rogers was also to have gone, but was unable to do so. Willie G. Rue, of Windsor, a lad 13 years old, won first prize for his essay "How I Grew My Corn." Other prize winners were Willard P. Perry, of Ewing, and Joseph Lyons, of Union School.

Committees from each of the organizations represented will meet shortly and discuss the advisability of a similar undertaking next year. The Horticultural Society passed a resolution provid-

ing for an endeavor being made to have the law making it a crime to kill mink, opossum and other animals destructive to poultry modified so that the farmer and the poultryman can protect their poultry without coming in conflict with the law. The society will also seek to have a law passed indemnifying them for loss sustained thru the prohibition of the shooting of the deer and other animals and game which damage the crops of the farmer.—D. H.

ORCHARD COVER CROPS.

The orchard needs for its renovation the moisture-retaining, food-supplying agency of some crop which will return to its soil the elements the growing trees and maturing fruit have taken. What to use as a cover depends upon climate, the soil's needs and its adaptability. The cover crop must be of a nature to establish a good growth of root and foliage before cold weather, and if planted in the fall, a crop hardy enough to endure winter serves best the full purpose of the cover.

Rye, cowpeas, crimson clover (annual), red clover, winter vetch, spring vetch and turnips are all useful and practicable for the orchard. Crimson and red clover and spring vetch must be left out of the fall list, however, if the cover crop is to be plowed under in the spring. The first two named will not make enough growth, and the last is not hardy enough. Rye is as cheap and as easily sown and grown as any cover that can be applied to the orchard, and it can be sown very late in the fall; but it does not do all the recuperative work of the clovers. Under no circumstances should it be allowed to grow as a grain crop the following season, but rather turned under early. It grows with very little preliminary soil preparation, merely a previous roughening up and a subsequent harrowing.

Winter vetch is valuable on light, open soils, or dry, knolly orchards and rather infertile spots, and may be sown in the fall, 50 pounds of seed to the acre. It may be plowed under the following spring or cut once for fodder and then plowed under. If the full growth is to be plowed under, it will need to be cut over with a cutaway harrow, as the plant is a long, tangling vine.

Spring vetch is not hairy, but is valuable as an orchard cover when sown late in summer or spring. When sown in late summer it makes enough growth before winter to be of some benefit to the soil.—M. Robert Conover, Monmouth Co., N. J.

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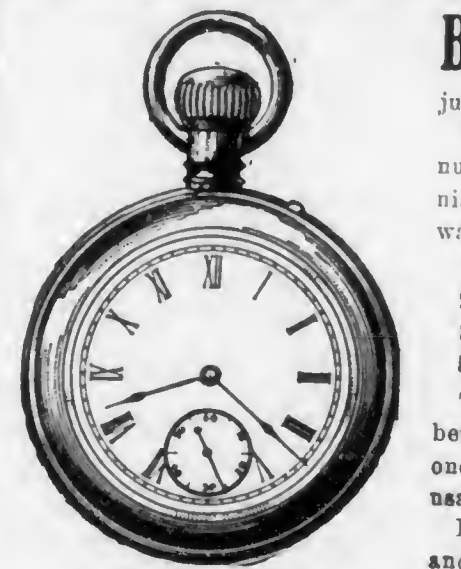
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The Dairy

NEW YORK STATE DAIRYMEN'S ASSOCIATION.

The 37th annual convention of the New York State Dairymen's Association, while open to criticism, was not lacking in valuable educational opportunities. The exhibit of dairy equipment and supplies was unusually large and all the needs of the up-to-date dairymen seem to have been anticipated by the manufacturers of dairy utensils. The progressive dairyman could find just what he wanted, and learn where to buy it. If some of the addresses were mainly statements of principles and dealt with generalities, they presented the point of view of the expert and scientist, and if one were to criticize anything, it would be the absence on the program of the men who, beginning with small capital, have made good on the farm.

The demonstration work was much appreciated by the audience. Exhibitors of machinery demonstrated what their machines could do, and the dairymen could see them in actual operation. Of special interest was the almost perfect work of the milking machines, and with a cow demonstration as part of the program, there were plenty of opportunities to learn by object lessons. The following officers were elected: President, H. C. Elwood; vice-president, W. E. Dana; secretary, W. E. Griffith; assistant secretary, H. E. Jones; treasurer, Robert Kirkland; directors, Com. C. J. Hinson, John Y. Gerow, F. C. Soule, G. E. Dietrich, W. N. Giles, W. A. Stocking, Jr.

Little Profit in Milk.—The Commissioner of Agriculture, C. J. Hinson, being unable to be present, Edward Van Alstyne, director of farmers' institutes, as his substitute, gave an address at the opening session. The following are selections: The margin of profit between the cost of the production of milk and the price received for it is very small. The average dairy farmer is not, so to speak, "rolling in wealth," but more often is getting a very poor living. I cannot on my own farm make a quart of milk for less than 3½ cents, and the iniquities of the distributors is the burden of the song. There has been a decided improvement in marketing methods. The price of milk cannot be arbitrarily fixed, but must be regulated by the law of supply and demand. The farmer should not expect anything else, but he must work to make dairymen pay under present conditions, while expecting gradual improvements.

E. H. Dollar, president of the association, gave the annual address. He spoke of the opportunities for the education of farmers and of the value of such an education, and said they should make the most of state agricultural institutions. Farmers' institutes should be held and cow-testing associations should be organized. The work of inspecting dairy herds, stables, and dairy products should be taken up by the State Department of Agriculture. This would guarantee pure and wholesome milk to the consumer, cheapen distribution, and farmers would receive a better price for their milk.

In responding to an address of welcome by a representative of the mayor of Syracuse, Prof. W. A. Stocking, acting dean of Cornell University, said the vocation of agriculture involves deep and intricate problems, requiring more education and skill than any other. Dairy farming especially re-

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quires a knowledge of many principles. The dairy farmer should have a good business training and must now be educated in the science of farming. To make the business profitable the farmer must keep better cows, and the farm must more fully feed them. Purchased foodstuffs are 100 percent higher than twenty years ago, while dairy products are only 30 percent higher. The business dairyman will enlarge his margin of profit by studying to reduce the cost of production by keeping cows with largest milk-producing capacity, and feeding them more scientifically. One of the most timely questions is soil fertility, and making the farm produce more and better cattle foods. Of paramount interest in New York is the question of marketing milk. Only by the food value of the milk as compared with other foods can the price of milk to the consumer be justly regulated.

Relations of Dairyman and Dairy Manufacturer.—This was the subject of an address by N. P. Hall, of Michigan. He told how, when a boy, he was left alone with his mother on a dairy farm, and was obliged to work out his own problems. He said he had seen dairy farmers working hard from year

spring of cold water. Dairy farmers have been slow in building private dairy houses where they can take good care of their milk. The farmers should use the best up-to-date sanitary dairy utensils, and keep them clean, thoroly washed and sterilized.

The ideal way is for every dairyman to draw his own cream to the factory. Cream should be well covered when being delivered. The cream is liable to get too sour before it is delivered to the factory when a general cream hauler is employed. A large percent of the butter made is defective in body, flavor and color, and some butter is overloaded with salt. Butter is never in better condition for working than immediately after the wash water is drained off. A better granular state is obtained by having the temperature of the water at 44 degrees. The butter should be worked until the salt is evenly distributed, but working should be stopped before the granules are broken. The workmanship in the factory has much to do with the finished product.

To make butter with more than 10 percent of water content, or to make over-salted butter is not a legitimate business, and every one that attempts

the production of dairy products has been largely increased by the consumption of ice cream. Taste, cleanliness and texture are valued more by the public than a high content of butter fat, so the manufacturers are not overexacting in their demands on the dairyman, if they only get a clean article. There is no standard of solids or fats for ice cream.

Cow Demonstration.—Prof. Hugh Van Pelt, of Iowa, gave his cow demonstration at the convention. This is too well known to need full reporting. His demonstration consists in placing a cow on the platform of the lecture room and pointing out her conformation so plainly as to make it an object lesson to dairymen. The scoring points of the ideal cow are impressed on the minds of his audience, so no one need go far astray in selecting a cow of the dairy type. The cow demonstration, supplemented by the description of the qualities of the right kind of a bull to mate with the cow he describes, teaches the dairymen how to breed cows with larger milk-producing capacity, and so make the dairy business more profitable.

Professor Van Pelt said that eastern dairymen would do well to study breeding and breed the cattle the market demands. The farmers in the western states want the surplus purebred cattle from the eastern states, and will pay good prices for many years. Western farmers have a surplus of cheap cattle foods. Great quantities of alfalfa are stacked and awaiting a market. There is but little margin for the grower after paying freight to distant markets. The western hay and grain farmers see that it is much more profitable to market their crops in the form of dairy products, so they are coming into the market for our cows. For these reasons, to study cow conformation and breeding and work to supply this demand for purebred cows in the west and for foreign countries is a good business proposition for enterprising competent dairymen.



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to year and all they had to show for it was the fact of having existed. They were just fed and clothed. We ought to make better dairy products than we are making, for poor products destroy a prospect for success in dairymen. If one farmer takes milk which is not clean and pure to the creamery and it is mixed with the milk of a farmer who produces sanitary milk, the quality is lowered and an injustice is done the farmer who produced the sanitary milk. The manufacturer of dairy products owes it to the farmer to have a clean, sanitary factory, to have good work done and a good salesman.

Milk cannot be profitably made from a cow of the beef type. Select a cow of the dairy type, no matter what her breed. The scales will help a dairyman to solve his problem better than anything else. A farmer cannot afford to raise crops to feed to cows that do not pay for the food they eat. In many communities cow-testing associations have worked wonderful changes so all the farmers were made prosperous. When a man is big enough to deserve it, success comes to him.

Butter Making.—The following selections are made from an address on "Butter Making" by Prof. C. E. Lee: The factors in making high-scoring butter are farm, factory owner, factory operator, middleman, and consumer. The beginning of making better butter is better raw material, so there is need of the practice of cleanliness in the stable. The ideal dairy house is over a

spring of cold water. Dairy farmers have been slow in building private dairy houses where they can take good care of their milk. The farmers should use the best up-to-date sanitary dairy utensils, and keep them clean, thoroly washed and sterilized.

The ideal way is for every dairyman to draw his own cream to the factory. Cream should be well covered when being delivered. The cream is liable to get too sour before it is delivered to the factory when a general cream hauler is employed. A large percent of the butter made is defective in body, flavor and color, and some butter is overloaded with salt. Butter is never in better condition for working than immediately after the wash water is drained off. A better granular state is obtained by having the temperature of the water at 44 degrees. The butter should be worked until the salt is evenly distributed, but working should be stopped before the granules are broken. The workmanship in the factory has much to do with the finished product.

To make butter with more than 10 percent of water content, or to make over-salted butter is not a legitimate business, and every one that attempts the production of dairy products has been largely increased by the consumption of ice cream. Taste, cleanliness and texture are valued more by the public than a high content of butter fat, so the manufacturers are not overexacting in their demands on the dairyman, if they only get a clean article. There is no standard of solids or fats for ice cream.

Cow Demonstration.—Prof. Hugh Van Pelt, of Iowa, gave his cow demonstration at the convention. This is too well known to need full reporting. His demonstration consists in placing a cow on the platform of the lecture room and pointing out her conformation so plainly as to make it an object lesson to dairymen. The scoring points of the ideal cow are impressed on the minds of his audience, so no one need go far astray in selecting a cow of the dairy type. The cow demonstration, supplemented by the description of the qualities of the right kind of a bull to mate with the cow he describes, teaches the dairymen how to breed cows with larger milk-producing capacity, and so make the dairy business more profitable.

Professor Van Pelt said that eastern dairymen would do well to study breeding and breed the cattle the market demands. The farmers in the western states want the surplus purebred cattle from the eastern states, and will pay good prices for many years. Western farmers have a surplus of cheap cattle foods. Great quantities of alfalfa are stacked and awaiting a market. There is but little margin for the grower after paying freight to distant markets. The western hay and grain farmers see that it is much more profitable to market their crops in the form of dairy products, so they are coming into the market for our cows. For these reasons, to study cow conformation and breeding and work to supply this demand for purebred cows in the west and for foreign countries is a good business proposition for enterprising competent dairymen.

Canadian Dairy Trade.—J. A. Ruddick discussed the Canadian dairy trade in relation to the U. S. markets. He said: "I do not expect that there will be very large exports of cheese to the United States from Canada. Prices for all dairy products are nearly as high in Canada now as on this side of the line. I look to the time when there will be no cheese exported, for the consumption of dairy products is rapidly increasing, and milk is being drawn from the cheese factories for butter and ice cream manufacture."

There are over 3,000 cheese factories in Canada, and in 1908 the high tide of cheese export was reached. Great Britain is the principal customer; besides the trade has been extended to 40 countries. There is now every indication that in the future the volume of production will be larger than ever before. In New Zealand there are especially favorable conditions for dairy farming, because there is little frost, and no housing of cattle or storing foods for winter. In answer to a question, Mr. Ruddick said that he had taken a general survey of the dairy situation and there is reason to believe that some time in the future New Zealand, Australia and Siberia are going to largely supply the international world markets with dairy products. Only full cream cheese is made in Canada. Nothing else is of any use for exporting. He also said that there were no laws in Canada relating to the scoring of cheese or against making skim-milk cheese. The export demand calls for a much greener cheese than formerly. The greatest cheese makers in the world are in England and Scotland, and they set the taste for cheese, and exporters must conform to it. No cheese will have a

December 27, 1913.

permanent place in the dietary of any people unless it has a pleasing flavor. The fashion in England is for the typical cheddar cheese that is cured in a temperature of 60 degrees.—J.

DEVELOPING A GRADE HERD.

The future of the dairy industry depends upon the judicious use of grade cows and purebred dairy sires. In no other way can the improved blood be disseminated rapidly enough to keep pace with the increasing demand for more efficient dairy cows. The dairyman who is looking to the future profits from his business must select his recruits for his milking herd and develop them in a manner that will insure their future usefulness as heavy and economical producers. One of the greatest losses in dairymen's operations in the eastern states is due to the expense of buying new cows and the failure of so many young females to develop into profitable cows.

In order to develop a herd that may average from 6,500 to 7,500 pounds of milk per cow, they must be well bred and carefully managed. If good breeding is not supported by liberal feeding the average production will drop in yield until the profits rapidly disappear. Good breeding is the first step toward securing more efficient animals, but it is not enough. They must be held up to the goal of heavy production by feeding them a properly balanced ration and catering to their needs at all times. The under-fed cow is as much of a curse to the dairy industry as the poorly bred, boarder animal.

The life of the dairy cow is comparatively short, and new animals must be coming forward each year to take the places of those that are sold from the herd. The best way to get this stream of new blood is by raising heifer calves whose blood lines have been strengthened by an infusion of improved blood from a purebred dairy sire. In this way the farmer who has some knowledge of the principles of breeding can gradually build up a herd of efficient cows at a moderate cost.

The best way to begin the improvement is to set a standard of production that will leave a reasonable net profit, and discard all the cows that fail to come up to this standard. By selecting some of the best cows in his present herd and purchasing a purebred bull, he will avoid the expenditure of a large amount of money for purebred cows, and gain his experience in handling improved stock without risking too much money. The whole scheme of building up a herd depends upon the selection of the right kind of a breeding bull. In the purebred herd, where he is mated with cows of an agreeing prepotency, he represents 50 percent of the breeding power of the herd, but when mated with grade cows he represents practically 100 percent; that is, if the scheme of breeding is continued until his blood predominates up to the fifth or sixth generation. Not only does the blood of the improved bull thus predominate in the calves, but they are produced in comparatively large numbers.

The next problem is selecting an animal that will bring about the desired results. We want a bull whose breeding coincides with the breeding of our grade cows. One of the fundamental principles in breeding is that there must be an affinity or harmony of qualities between the animals that are mated. We must make a careful study of the limitations of temperament, or the cow's inherited tendency of function. From this study of temperament we will learn that it is impossible to combine dairy temperament with beef temperament in the same animal, in their high-

est relative degree, for they are opposed to each other. We must select animals that possess an affinity or harmony of qualities, an agreeing prepotency, as much as possible.

Practical experiments have proven that it is a poor exercise of breeding skill to attempt to unite in one animal a powerful prepotency toward a large flow of milk deficient in butter fat, like the Holstein, with the equally powerful and fixed prepotency toward a smaller flow of milk rich in butter fat possessed by the Jersey. Such extremes seldom nick well together. On the other hand, the Ayrshire bull may be crossed with the cows or grades of either breed without doing violence to any of the fundamental rules of breeding. The Ayrshire nicks well with the cows of either breed for the reason that they do not possess as rigid a prepotency in the one direction as the bulls from the Holstein or the Jersey breeds.

This is not mere theory on the part of the writer, but actual experience gained in developing a herd of grade Holstein and Jersey cows by the use of an Ayrshire bull until they were practically purebred Ayrshires. Guernsey bulls nick well with cows of other breeds when used for grading up common cattle. One of the best dairy herds in this part of the country was brought up to its present high standard by the continued use of Ayrshire sires. It is not my purpose to encourage cross breeding, but when it is needed to bring about the desired results it is always better to select the improved sire from some breed that bears a close relationship with the grade cows we have in our herds.

The feeding of the mother, who must build up the frame and give constitutional vigor to the young calf, is the true foundation. Yet the average dairyman feeds his cows that are with calves on the refuse of the farm. The clover hay, bran and linseed oilmeal is fed to the cows that are giving milk. The very elements needed by the cow at this period are withheld. Carbonaceous foods, which give heat and fat, are but little needed to supply the growing foetus with nourishment. Simply material to build up bone, muscle and blood during the rapid development while the cow is dry is needed to nourish the growing calf. I think that I am safe in saying that 90 percent of the dry cows are fed the odds and ends of hay and fodders and the kinds of supplemental feeds that can be supplied the most cheaply regardless of their actual needs.—W. M. K., Erie Co., N. Y.

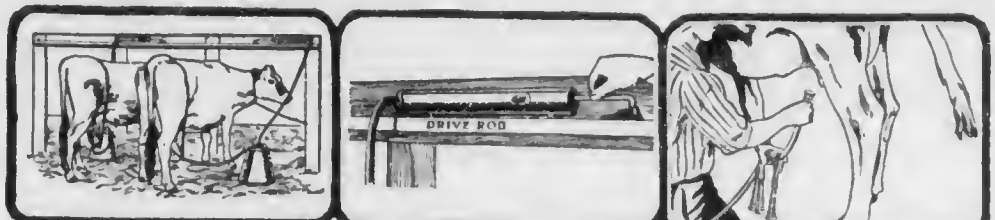
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Garget.—Two of my cows are troubled with garget. I have applied several home remedies with rather poor results. Some two weeks ago the right fore quarter commenced to swell; then I applied vinegar and hot water, twice a day, but this swelling seemed to continue until the quarter is now quite hard, but not painful. The cow is eating as well as my other cows, and the one next to her seems to have trouble in the right hind quarter.—J. K. H., Girard, Pa.—You will obtain fairly good results by giving each of them a tablespoonful of powdered nitrate of potash at a dose in feed, 2 or 3 times a day, and apply 1 part iodine and 15 parts fresh lard to caked portion of udder, 3 times a week. It is important to bed them well in order that they will not bruise udder when down.

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Poultry

POULTRY DISEASES.

Success in poultry raising depends largely on keeping the birds in a thriving, vigorous and healthy condition. They may be likened to machines, being fed in the raw material and producing the finished product. In order to do this they should be kept in such condition as will enable them best to make such a transformation.

One of the most serious obstacles in the poultry business is the retarding influence of disease on egg production and its agency in killing off large numbers of chickens. In order to deal successfully with disease, it is necessary to know its cause or causes, its preventive and its cure, if there be any.

A healthy chick is lively, has clear eyes and a red comb, is quick and active in its movements, has a good appetite, and its organs are performing their natural functions in the natural way.

If the digestive organs are out of order, prompt attention should be given to the nature and amount of the food being consumed, with special attention

known, and for this reason provision should be made for its access into the house. Cleanliness is very essential, more so for poultry than for animals. The dropping boards should be frequently cleaned and disinfected. Disinfect brooders and colony houses with a spraying mixture of 3 to 5 percent solution of formaldehyde. Just as soon as the spraying is finished, close the building tightly and let the gases do their work. A good spraying mixture for red mites is 3 pints of kerosene to one pint of crude carbolic acid.

Gape Worm.—This is a common enemy of small chicks. It is a long white worm which attaches itself to the windpipe and sucks the blood out of the bird's body. These worms are often coughed up by the infected birds and again eaten by others, and in this way the disease is spread. The best remedy is to take a feather and moisten it with turpentine and draw it thru the trachea. This will loosen the hold of the worm and it can be easily removed.

Scaly Leg.—Is caused by a mite which burrows under the scales of the feet and shanks. The crust can be loosened by soaking in warm, soapy water. After this apply a solution of amber oil. It is not contagious.

Roup.—Is the term applied to a va-

diarrhoea.

Leg Weakness.—Is sometimes caused by over-feeding with highly nutritious foods and an insufficient supply of bone-meal and muscle-forming material, those rich in protein. To remedy, make a change in diet, eliminating almost entirely the fattening foods, and feeding more of such feeds as hulled oats, millet, wheat, bran, steamed cut-clover or alfalfa hay and Canada peas. Allow plenty of green food, water and grit. Lack of exercise, and especially of some kind of green food, is often the cause of leg weakness.

A good remedy for feather pulling is to paint the feathers with a paint composed of 1 pint of whiskey to 2 ounces of aloes.

The egg-eating habit is an indication that the fowl has an insufficient supply of shell-forming material in the form of oyster shells. Allow plenty of grit and oyster shells and obviate the trouble.

It is well to remember that prevention is in all cases better than a cure. Find the cause and remove it. Give natural conditions as nearly as possible, and especially provide all the sunshine and fresh air possible. See that the fowls are made to exercise for a large portion of their food. Keep grit and shell hoppers and drinking dishes full. Feed some green food daily. A feeding of onions aids digestion and helps keep the fowls in condition. Charcoal can also be fed in hoppers regularly and will aid greatly in keeping the digestive system in working order.—F. W. Kameier, Cornell University.

WINTER CARE OF BEES.

There are many ways of packing or storing bees for the winter. Some beekeepers have them in a cellar or cave, while others have them packed in the yard with chaff, sawdust, or some other dry non-conductor of heat and cold. Both methods are good, but frequent attention is necessary in either case.

If your bees are in a cellar or cave, keep the temperature as regular as possible and at about 45 degrees F. The entrances should be wide open or the bottoms entirely removed. Also, the tops of the frames should have some absorbent over them, or a way provided for the moisture to escape in the air. If a bag of sawdust or other absorbent is laid over the frames, a way must be provided for the bees to pass from one comb to another. This can be done by laying two strips about an inch thick across the tops of the frames before the bag is placed. Anything that disturbs the bees very much causes them to fly out in the cellar and die. A blast of very fresh air directly upon them, or rays of light will cause this. However, some ventilation is necessary, and it should be accomplished with as little disturbance as possible. Watch the mice if they can get at the hives.

Bees wintered out of doors should fly freely two or three times during a winter, but at such times the weather should be pretty warm. When they fly too often stores are consumed rapidly, and too many bees perish in cold winds. If a broad board is leaned against the front of a hive it prevents the sun from shining in the entrance and on the hive front, thus preventing unnecessary flights. Entrances should be about 3 x 8 inches and always kept free from dead bees and ice. Hives, in winter, should incline about an inch and a half to the front so that all moisture will drain off rapidly and no water run in at the entrance. Never disturb a cluster of bees when it is too cold for them to fly freely. In early spring bees eat stores very rapidly and should be carefully watched.—W. J. Watts, Clearfield Co., Pa.

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Live Stock

SANITARY STABLE FLOORS FOR POULTRY, SHEEP AND HOGS.

Many contagious diseases have been traced to absorbent floor material for poultry and live stock buildings. Most of these diseases might be prevented by the substitution of a sanitary floor, such as is assured by the use of well-made concrete.

Any flooring having cracks or absorbent properties invites vermin and disease. Lice, ticks, and rats find a safe harbor in and under a floor of wood, and some of these pests are a positive detriment to poultry, sheep and hogs. No matter what the walls of a building, make certain that the floor is impervious and durable, may be easily cleaned and will not remain damp thereafter.

To build a concrete floor remove all manure and other foreign matter and grade the surface of the ground. If needed, lay all water pipes and the drains necessary for keeping the ground dry, for carrying off waste water and

floor should be finished merely with a wooden float. A steel-trowel finish is entirely too smooth and, if made, should be roughed with a stable broom. Should removable wooden or gas pipe pen-divisions be used, make mortises for them in the floor at the proper points by inserting short lengths of gas pipe or drain tile, or by tamping the concrete around tapering wooden cores, which must be withdrawn as soon as the concrete has stiffened.

With the proportions given above, 4 bags of cement (1 barrel), 3 cubic yard of sand and 1 cubic yard of crushed rock will lay a section of floor 8 feet square by 4 inches thick. The cost for the materials alone will be about \$2.50. As to the labor, ordinary farm help can do the work very well.

Proper Care of Animals and Floor.—Regardless of the material used for the floor, a certain amount of covering must be provided for floors of houses for poultry, sheep and hogs. Floors of poultry houses should be covered with a layer of sand or litter. The floor of the sleeping quarters of a hog house should be provided with a removable slatted wooden platform, which must be well supplied with bedding of straw or litter.



CONCRETE HOG-HOUSE FLOOR WITH WALL ON END.

for conducting the liquids to the manure pit. Such earth filling as may be necessary must be dampened and thoroughly tamped. This work should be done as long as possible before building the floor. Keep the concrete from direct contact with the earth by covering the entire surface of the leveled-off ground with six to eight inches of coarse rock or screened gravel.

For grading the surface of the floors, use a carpenter's spirit level (or a water level) and a chalk line. A four-inch thickness of concrete is sufficient. Slope the floor one-eighth inch per foot in such direction that the rain or scrub water will cause the least inconvenience. For poultry houses this will usually be toward the door; for sheep sheds and hog houses, away from the animal's bed and in the direction of the gutters.

Mixing and Laying the Concrete.—The usual proportions of concrete for such floors are 1 cubic foot of Portland cement to 2½ cubic feet of sand to 5 cubic feet of crushed rock or screened gravel, or 1 part of cement to 5 parts of bank-run gravel. These materials are measured on the basis that 1 bag of cement (loose) equals 1 cubic foot. Mix them thoroughly on a tight wooden platform (never on the ground) and use enough water to make the concrete "quaky."

Lay the floor in a manner similar to sidewalk construction. If the sand and rock are first-class in quality, no finishing mortar is required. Such a mortar is generally mixed 1 part cement to 2 parts sand and is applied (1 inch in thickness) to the 3-inch concrete base before the latter has begun to set. To provide good footing for animals, the

Likewise the floor of sheep sheds should be kept bedded, especially during the lambing season.

Concrete floors are the cheapest, as they never have to be repaired or replaced. Moreover, they can be flushed out with a hose or thoroughly disinfected with oil or other substances without injury to the concrete. They are effective in aiding the prevention of cholera and foot-rot. On account of their sanitary qualities they greatly increase the profits of poultry, sheep and hog raising.—P. C. Stork.

DANGER IN STANDING CORN-STALKS.

Farmers in the corn belt have at various periods experienced loss of cattle pastured on standing cornstalks after the corn has been harvested in the autumn. An element of mystery has surrounded the death of cattle in these instances. The disease is characterized by a very rapid course; in fact, very commonly there are no premonitory symptoms, and it is not unusual for the owner, upon visiting the field in the morning, to find one or more fat cattle dead, which on the previous evening were apparently in excellent health. Another peculiarity of the disease is that losses may occur on one farm or in one field while cattle on an adjoining farm or in an adjacent field may be free from the affection.

Various investigators in the past have attempted to discover some germ or organism or some toxic substance which might be determined as the cause of this condition, but thus far the cause of the disease has not been established.

As death of stock from this affection is generally sudden, and there is little opportunity for treatment, animals should not be turned into a field with standing stalks.

As a matter of fact, the disease may be actually prevented by cutting the stalks early and only feeding them after they have been carefully cured and removed from the field. Losses from feeding on standing cornstalks emphasize the economic value of cutting corn and feeding the stalks in the yard, or, better still, shredding stalks, under which condition they may be fed with the least possibility of harm.

The so-called cornstalk disease should not be confused with poisoning from eating sorghum. Deaths among cattle from eating sorghum have been traced to prussic acid poisoning, while the sorghum, under certain conditions of growth, has been found to be in combination.—Department of Agriculture Circular.

HOGGING DOWN

A Wisconsin farmer writes his opinion as to the hogging down of a western farmer going to cheap lands and raising hogs, in connection with farming such as dairying, etc. The farms are too high in price for a man with moderate means to buy and make profitable."

It will be impossible for me to speak from recent experience on this topic. It is some years since I have raised any hogs, and the practice of hogging down any crop has never been practiced here so far as I know. In the first place, these lands will grow oats and peas very nicely, and they form one of our most profitable crops, in my opinion. On land that is what we call really in need of plowing, it will be necessary to use some fertilizer to grow a good crop of oats and peas. This may be a moderate dressing of manure, or it may be commercial fertilizer.

In either event I would use 1000 pounds of fresh burned lime or a ton of ground lime rock. This would be a somewhat permanent improvement, as the lime would be beneficial for a number of years. Three to four hundred pounds of some good commercial fertilizer will, if the other conditions are right and the work has been well done, give a fine crop of oats and peas. If one wants to seed, the conditions are now right for doing so. As for the harvest, we use them for hay, or to feed green in summer. In this way we get them off the ground in time to give the seeding a start. If they are cut early, less water is taken out of the soil and the seeding makes a better growth.

If one wants to hog them down, I see no reason why he may not do so, but it seems to us eastern farmers that there will be considerable waste in it, but there will be some added fertility to the soil and the cost of harvest will be light. It would make cheap pork, I think, and there might be a profit in the method, and the soil would be enriched another year for the next crop. Some think that such a course is desirable for increasing fertility and for the profits of the hog market. It is worth trying in this region, altho we are favorable to the dairy business as a rule.—H. H. Lyon, Chenango Co., N. Y.

LOCAL REPRESENTATIVES.

We want a representative in each community to take subscriptions for Pennsylvania Farmer. This is the best season for the work and spare time can easily be turned into hard cash. Liberal terms and all supplies furnished free upon request

State of Pa., Dist. of Phila., Term of Year, 1914. Berksires for home use show purposes a special price. THE BLUE RIDGE BERKSHIRE FARMS, Asheville, N.C.

BERKSHIRES

We offer Service Boars, Bred Sows and Fall Pigs. Good ones, at reasonable prices. T. J. KERR, Collins, N. Y.

Large Berkshire—Swine, Registered High grade. Prices reasonable. Write HOME FARM, Center Valley, Pa.

Duroc—Jersey—Choice service boars, very growthy and of prolific families. Oils bred for Spring farrow. E. R. Miller, Van Wert, Ohio.

DUROC PIGS—Ang. Farrow—\$15.00 per pair. S. O. WICKS, DEGRAFF, OHIO

DUROC Jersey Spring Boars, Sows bred or open. Choice lot fall pigs. Large, mellow, heavy boned. Mated, so skin. Prices reasonable. L. C. McLaughlin, Rt. 2, Pleasantville, O.

Hampshire Pigs—Hampshire Rams, Dutch Belts Rocks, Cattle, M. B. Turkey, Buff White Belt Farms, Plainville, N. Y.

MULEFOOT HOGS

Older breeder in the State. Pedigreed stock for sale. SAMUEL JOHNS, Wilmington, Ohio. Sec. D

200 Big Type Mule Foot Hogs FOR SALE. America's Champion Herd. John H. Dunlap, Williamsport, O.

SWINE—Large English Yorkshires. Bred sows, lusty fall pigs—pairs no action. Service boars. Prices right. R. D. Eddy, Cattaraugus, N. Y.

Registered Chester White Pigs and Jersey Bull Calves FOR SALE. J. A. BOAK, R. D. 4, New Castle, Pa.

SHEEP.

SOUTHDOWN SHEEP
We are selling our entire herd of Registered Southdowns, including imported Ram, Baker, "35," who is sire to the young rams and ewes. All our stock is registered and guaranteed. This is a fine chance to get some good stock at a very reasonable rate. Young bucks \$25.00 each. Young ewes \$15.00. Mature ewes \$25.00. Write for particulars and special price on bunch.

We also have a few registered Guernsey Bulls and Berkshire pigs for sale.

Come and see our stock or order on approval. We guarantee to satisfy you.

ELLENWOOD FARM

HATBORO, PA.

IT Pays to Buy Pure Bred Sheep of Farmen. "The sheep men of the east." Shropshires, Ramboullins, Polled Dales and PARSONS Oskloes. Rt. Grand Lodge, Mich.

HORSES AND JACKS.

JACKS AND MULES
Raise mules and get rich. 15 Jack and Mule farms under one management, where can be seen 420 head of larger Jacks, Jennys and Mules, 14 to 17 hands high, blood pure. Stock guaranteed. Write for prices today. Address KREKLE'S JACK FARM, West Elkton, Ohio, Branch farms, Clinton, Ind.

Kentucky Jack and Percheron Farms. Big bone, Kentucky, Mammoth Jacks, Percheron Stallions, Mares and Saddleers. Special prices in half car or carload lots. Write for catalog. COOK & BROWN, Lexington, Ky.



truth in road management, as in other official work, is available if you go after it. Get it and then use it.

The total value of the principal farm crops for the season of 1913 is placed by the U. S. Department of Agriculture at \$4,940,301,000. This breaks all records, exceeding the total of 1912 by \$182,968,000, and that for 1911 by \$350,772,000. These figures represent the farm values of crops. If the farm price to the consumer prevailing in recent years holds, the consumers will pay for crops at somewhere near the enormous sum of \$12,000,000,000; and the farmers will receive for their crops about \$7,000,000,000, which would mean a loss of \$5,000,000,000 to the consumers. This is a very serious situation, and the government should take steps to remedy it. The government should maintain the machinery for the transmission of spoken messages. As the courts have concurred in this classification of the written letter and the spoken message as one and the same thing, there can be little room to question the Postmaster General's claim as to the government's constitutional right to take over the wire lines. Opinions differ widely, however, as to the feasibility. The opponents take the old ground of opposition to all government ownership of public utilities. They have much logic and much weight of indisputable fact on their side, and the question as a government policy is not likely to be decided for some time to come, except, possibly in a limited way, as in the case of the Alaskan railroad development now under consideration. The question is always one of expediency. There was little talk of parcel post until the express companies forced the issue with exorbitant rates and inferior service. There would be little need of, and much less sympathy with, an agitation for government ownership or even control of telegraph and telephone lines if the present owners of these utilities showed a disposition to be reasonably responsive to public needs. The American people have shown little encouragement to paternalism in government functions. There has long been a strong opposition to government participation in business that can be run efficiently by private enterprise. But there is a limit at which either government ownership or control seems necessary to insure efficient service. Whether or not that point is approaching in relation to the telephone and telegraph service will depend very largely upon the efforts of the companies to meet existing demands. The first move has been made in the American Telegraph and Telephone Company's agreement to relinquish its control over the Western Union Telegraph Company.

STATE CAPITAL NEWS

State Officials at Board Meetings.—Officials of the state are to take a far more active part than ever before in the proceedings of the State Board of Agriculture, which will hold its annual meeting in the State Capitol January 28 to 30. It is planned to make the State Board a clearing house for useful information relative to agriculture, and the opportunities and necessities for increase of agricultural effort will be emphasized. Secretary Critchfield has asked every head of a department of the state government to attend the meetings and to either speak himself or have some representative on the program, and everyone from the Governor down has promised to co-operate. The Governor will make an address at the opening and the work of each department, especially its relation to agriculture, will be reported to the board and a chance given for any suggestions or improvement. This will be the first time that the state government has taken such a part in the proceedings.

Enforcing Cattle Law.—The State Live Stock Sanitary Board is inaugurating a campaign of vigorous enforcement of the quarantine laws and instances of violations in a dozen counties have come to light, some of them being reported as flagrant disregard of the laws prohibiting inter-state and other shipments of cattle without inspection and certificates. Five suits have been started in Chester county alone, and some in Lancaster and other counties. The disregard being shown is giving some concern, as without co-operation of farmers, dealers and shippers, infection may be introduced which would entail heavy loss.

Automobile Laws.—The long-expected

test of the automobile license appropriation in a lump without specific appropriation will be undertaken early in the new year. The State Highway Department, to which was appropriated all of the income from licenses of automobiles for road improvement, has made its plans for 1914 on this income, and if there should be an adverse decision, precious little road work will be done. It is the plan to make requisition on the auditor general for some of the money in January, and if he refuses to pay it over, to institute mandamus proceedings, which will be carried to the supreme court.

Must Display Tags.—Under the regulations adopted by the state authorities it will be dangerous to run an automobile, truck, traction engine or any motor vehicle on January 1 without a 1914 license. Notice has been given that persons running machines without the new licenses will be arrested on sight. The new law requires all traction engines to be licensed as well.

Burgesses Co-operate.—Commissioner of Labor Jackson has received letters from almost half of the burgesses and fire chiefs throughout the state in which his request to see that aisles in churches, moving picture shows, halls and other places where Christmas entertainments are given or holiday crowds gather, are kept clear. In every case they promise co-operation, the responses from small towns being numerous.

New Seed Law.—The new seed law, which becomes operative on January 1, is the subject of much correspondence with state officials, especially with people in other states who desire to be kept informed as to the requirements. It is believed that the operation of the new law, under which samples will be taken just as in the case of fertilizers, cattle feeds and other commodities, will reduce a considerable amount of the annoyance experienced by farmers from obnoxious weeds.

Rural School Sanitation.—Two state agencies, the department of health and the board of education, are moving for better sanitary conditions in the rural schools and especially in those districts which have been unable thus far to afford new buildings along the lines of those suggested by the state board. The board has been furnishing free of charge plans for standard buildings, and in many counties, districts which formerly paid for designing of plans have been getting them free of charge. The state is now endeavoring to bring about better ventilation and lighting in the schools and to obtain sanitary out-houses. The reports of medical inspection show the latter to be in a condition that demands some regulation to say the very least.

Aid for Rural Districts.—The recent report of William Lander, of the State Board of Education, favoring a direct state tax so that the state can assume the direct payment of all teachers, has stirred up much comment and not a little opposition. However, this is a situation which must be met as the educational interests of the state are getting to a point where the burdens must be equalized and the legislature must cut down some of its fancy appropriations and provide the cash for a substantial increase in the appropriation to the common schools. The cities and some boroughs get along pretty well, but the small districts have hard sledding.

The Road Question.—Just because the proposed bond issue was voted down at the polls a number of people have been wiring to the Capitol bewailing the road situation, but state officials are calling attention to the fact that the next legislature, which will sit within almost a year, will be able to make appropriations to start a comprehensive building program if it desires. It is likely that the road situation will be thoroughly discussed at the coming meeting of the State Board of Agriculture, where a paper on the subject is to be presented. This meeting will afford an opportunity for the making of suggestions which can be discussed and brought to the attention of legislators. What is needed most of all is agitation of the subject so that men aspiring to the legislative halls can announce their position and the voters may make their choice. If the law makers go into the legislature determined to make adequate provision for road building on a program basis, just like a battleship program is laid out for a number of years, and far due provision for education, it can be done and no additional taxes required. But a lot of discrimination will have to be shown in the voting of state money to charities.

Land Assessment.—Farmers all over the state have a feeling that their lands are not impartially assessed. Says John H. Cook, an authority on the subject: "I believe that farms are assessed higher in proportion to their value than any other property. I believe further that the very small property owner, the man who owns a house and lot, for instance, is assessed higher in proportion than any other property owner except the farmer. It is a general proposition that the more a man owns the less tax

As to Magistrates.—Justices of the peace elected in November will enter upon their terms of office the first Monday of next month, not in May as some believe. They will serve for six years instead of five.

May Get Federal Help.—Federal aid in the gathering of first-hand information about manufactures and agriculture is being arranged by the state officials and the officers of the census bureau. To avoid duplication of work, a system will be worked out and reports exchanged.—Hamilton, Harrisburg, Dec. 22.

NEW JERSEY FARM NEWS

Another State Farm.—The state authorities have acquired a tract of land containing about 1,000 acres in Cumberland County, for which \$20 an acre was paid. To work this land, 300 convicts from the state prison will be employed. The farm will also be utilized for the purpose of experimentation by the state agricultural college. Much of the land is marshy, but not a great deal of draining will be required, as the soil will dry out as soon as the brush and trees are cut away. An old mill pond on the place will be utilized for growing cranberries. The rest of the land will grow all kinds of crops.

Farmers' Institutes.—At the Farmers' Institute at Blackwood, Professor Agee told the farmers that there is no use for the state to spend money in institute work unless somebody gets some good information from it; that the institute should be just like a number of business men getting together and thrashing out problems in farming. Speaking of the use of lime, he told his hearers that it is impossible to get out all there is in the ground unless it is sweet, and lime is the best and cheapest ingredient that can be found to make it sweet. The institutes at Burlington and Moorestown, both located in sections where much attention has been given for years to scientific agriculture, were well attended by large numbers of enthusiastic farmers. At these institutes considerable attention was given to the subject of marketing. The general consensus of opinion seemed to be that the interests of producer and consumer were mutual and must be harmonized without too much money being paid out to the middlemen.

Swine Reclaim Land.—Hogs have been successfully utilized to clear up land on the Folly Farms, near Hammon. On this place there were several acres of land that were overgrown with brush. Thirty Jersey Red hogs were turned into a portion of this land and brush and briars of every sort disappeared before the onslaughts of the porkers. When one tract was cleared up thus the hogs were turned onto another part of the farm, when the swine repeated their task. Not only was the land left perfectly clean, but a great amount of sub-soiling was done. This year, the corn crop at Folly Farms was the finest ever harvested in that section.

Strawberries.—The palm for the banner strawberry crop grown in the state goes to Dustan Allaire, of Little Silver. From one-fifth of an acre of Chesapeake berries he harvested 2,174 quarts, which netted him \$360. Mr. Allaire lays his success to the fact that he set the plants in the row just twice as far apart as others do. Besides they were kept perfectly clear of all foul growth, were heavily fertilized and given the best of care and cultivation at all times. A new variety of berry which bears in the fall and is then almost over-bearing has been perfected by Willard B. Kille, a scientific farmer of Bridgeport. From plants set in April, berries began to ripen on September 25, and from that time right up till now, the supply of ripe strawberries has never ceased. At this writing, Mr. Kille has them ripening under leaves. Since the first picking, regular weekly shipments have been made to the Boston market, and an average price of 50 cents a quart net has been received.

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he pays in proportion to his property, and that is true in my own county of Monmouth as it is anywhere else."—D. T. Hendrickson.

NEW YORK LETTER

Annual Meeting.—The commissioner of agriculture has announced the annual meeting of the State Agricultural Society for January 20 and 21 at the Capitol at Albany. Among the subjects to be discussed by speakers of prominence are building and loan associations as an aid to rural credit; co-operative work of the State Grange; how housewives can co-operate; the state and co-operative societies; co-operative movements abroad; work of the county farm bureaus, etc.

Food Inspections.—The report of the commissioner of agriculture on inspections made by the department's agents is of unusual interest. It appears that there have been 10,545 inspections made during October and November, of foods, milk, veal, oleo, feeding stuffs, etc. In all, 716 cities and villages outside New York City have been visited by these agents and this does not include 3000 inspections made of orchards and nurseries, nor the inspection of state and county farms. In Greater New York the food inspections numbered 2,426; milk, 2,500; veal, 11,450; oleo, 2,845.

State Bee Keepers Meet.—The annual meeting of the eastern state bee keepers has just been held in Albany. Interesting papers were heard and officers elected. W. D. Wright, of Altamont, is president; Stephen Lavenport, of Indian Fields, vice-president; Rev. I. V. Lobb, of Troy, is secretary, and I. J. Stringham, of New York, is treasurer.

Oleo Decision.—The Court of Appeals has handed down a decision in a proceeding against an Albany grocery firm, by the state, which was a test case as to the constitutionality of the law. The court's general holding that the law was designed to compel the use of ordinary ingredients so as to produce a color not resembling butter; and further, that the law was intended to prevent the designed and deliberate production of a commodity to simulate and resemble the product of the dairy, for the purpose of marketing the product as butter. The Court held that a shade of yellow given oleomargarine thru the use of the recognized substantive ingredients in a natural and primary condition, identical, without premeditation and design, with a shade of yellow possessed of natural butter, does not effect a deception or false pretense and is not prohibited.

Road Bonds.—Next month state highway and canal bonds for \$51,000,000 will be sold by the state comptroller which will bear 44 percent interest and will be exempt from federal income and local taxes. Of this issue, \$30,000,000 will be used for canal purposes, and \$21,000,000 for highway work. It is said that the canal bonds will complete the work on the great waterway.

State Breeders' Meeting.—Commissioner Huson has announced that the next meeting of the State Breeders' Association will be held in Rochester on February 4 and 5. Powers hotel will be headquarters.

State Fair Accident.—The state will have to pay for the killing of certain persons on the state fair grounds in 1911 by Oldfield's racing auto which dashed into a crowd witnessing the races. The State Board of Claims has affirmed the decision of the referee in the case on two claims which were brought as test cases. This means that the state will have to settle for the nine deaths and nine injuries resulting from the accident, so far as money can settle them.—D.

INSTITUTES NEXT WEEK

Pennsylvania.

First Section.—Speakers, D. H. Watts, Howard Mituan and Sheldon W. Funk. Dec. 29-30, Landisburg, Perry Co.; Dec. 31-Jan. 1, Ickesburg, Perry Co.; Jan. 2-3, Annville, Lebanon Co.

Second Section.—Speakers, Professor Franklin Menges, R. H. Bell and H. M. Gonderham. Dec. 29-30, Pine Grove Mills; Dec. 31-Jan. 1, Rebersburg; Jan. 2-3, Jacksonville, all in Center county.

Third Section.—Speakers, J. T. Campbell, Leon Otice Van Noy and J. H. Peachee. Dec. 29-30, Smicksburg; Dec. 31-Jan. 1, Marion Center; Jan. 2-3, Willet, all in Indian county. Robert S. Seeds will speak at Willet on Jan. 3.

Fourth Section.—Speakers, R. P. Keator, Frank Kline and Mrs. Jean Kane Foulke. Dec. 29-30, Woodrich; Dec. 31-Jan. 1, Logantown; Jan. 2-3, Beech Creek, all in Clinton county.

Fifth Section.—Speakers, L. W. Lighty, M. H. McCallum and Fred W. Carl. Dec. 29-30, Daleville; Dec. 31-Jan. 1, Madisonville; Jan. 2, Bald Mount; Jan. 3, Clarks Summit, all in Lackawanna county.

Movable Institute Schools.—Franklin, Venango Co., Dec. 29 to Jan. 1, Speakers, W. Theo Wittman, F. H. Fasset, R. S. Seeds, Dr. M. E. Conard, R. J. Weld and Dr. Hannah McK. Lyons. Westfield, Lawrence Co., Dec. 31 to Jan. 3, Speakers, W. Theo Wittman, F. H. Fasset, R. S. Seeds, Dr. M. E. Conard, R. J. Weld and Dr. Hannah McK. Lyons.

Cotton Yield.—The U. S. Crop Reporting Board estimates the total pro-

duction of cotton in the United States for the season of 1913 will amount to 6,542,850,000 pounds (not including lint-ers), equivalent to 13,077,000 bales of 500 pounds, gross weight. This compares with 13,703,421 bales as reported in the census of 1912, and an average production of 12,331,047 bales in the five-year period from 1907 to 1911.

Montour Co., Pa. (C.), Dec. 18.—Weather exceptionally fine for December. Beef cattle in good demand; prices ranging from 6c to 7c. Veals, 9 to 10c; hogs, 11c; cows, \$50 to \$75; horses, \$150 to \$250; 7-week-old pigs, \$6 pair. Wheat looking well; 90c bu. Corn, 70c; oats, 45c; potatoes, 90c to \$1; butter, 40c; eggs, 30c; lard, 15c; apples, \$1 bu. Work well on, hauling of wood for next summer, and lime being main work around frozen, preventing plowing.—Benj. L. Diehl.



Mitchell Little Six \$1,895

Eighty Years of Faithful Service to the American Public

The Mitchell-Lewis Motor Company has the enviable record of eighty years of faithful service to the American public. Bear this in mind when you get ready to buy a car, for it operates as insurance of quality.

Eighty years of faithful service is an asset of no uncertain value. This company held the respect of the early settlers of the western country because of absolutely honest merchandise in the shape of farm wagons. It established its standing before automobiles were known. When it embarked in the automobile business, it clung to the policy that made its farm wagon business famous. And its automobiles are famous for the same satisfying reason.

You've got something behind you when you buy. Our standing and prestige constitute a *substantial asset*. Add to this the remarkably fine character of the Mitchell Models and your purchase is as solid as the Rock of Gibraltar. Ask any farmer in America what he thinks of the old Mitchell-Lewis Wagon Company. Ask any one of thirty thousand Mitchell automobile owners what he thinks of the Mitchell-Lewis Motor Company. Their reputation and reliability are precisely the same.

The Mitchell Models for 1914:

The Mitchell Little Six—fifty horse-power—122-inch wheel base—36x4 1/2 inch tires—two or five passenger capacity	\$1,895
The Mitchell Big Six—sixty horse-power—144-inch wheel base—37x5 1/2 inch tires—seven passenger capacity	\$2,350
The Mitchell Four—forty horse-power—four cylinders—120-inch wheel base—36x4 1/2 inch tires—two or five passenger capacity	\$1,595

Equipment of all the Mitchell Models included in the List Prices Here Given: Electric self-starter and generator—electric lights—electric horn—electric magnetic exploring lamp—speedometer—mohair top and dust cover—jiffy quick-action side curtains—quick-action rear vision wind-shield—demonstrable rim with one extra—tongue valves—double extra tire carriers—Baird bow holder—license plate bracket—pump, jack and complete set of tools. Prices F. O. B. Racine.

Mitchell-Lewis Motor Co.
Racine, Wis., U.S.A.
Eighty Years of Faithful Service to the American Public

Feed Sweet Succulent Corn Until the Silo's Empty

You can keep your ensilage as fresh, sweet, succulent and palatable as the day the corn was cut—preserve it in perfect condition right down to the last forkful—if you have a

Natco Imperishable Silo

Built of vitrified clay hollow blocks; its glazed surface excludes air and moisture. The two dead air spaces protect contents from heat and cold. Each layer of blocks is reinforced by continuous steel bands.

Weatherproof—Decayproof—Vermineproof—Fireproof

The Natco Imperishable Silo will last for generations—any mason can erect it—never needs painting—no staves to warp or shrink—no hoops to tighten—no repair bills—the first cost is the only cost.

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NATIONAL FIRE PROOFING COMPANY
Philadelphia, Pa.

How to Get Better Roads.

Earth Roads Improved by Use of King Drag.

By Dr. DONALD McCASKEY.

The Road Supervisor.

The first step in improving the roads of a community or township is to secure the election of the right kind of Road Supervisor. The office requires a man who is genuinely interested in good roads, has the nerve to carry out his ideas and the energy to get results. This man may be yourself or some man in your locality whom you and your neighbors can help elect if you go about it right. Your campaign can be made to answer two purposes: Elect your man and create a wave of road enthusiasm that will cause your candidate to extend himself when in office, and cause every tax-payer to keep on his heels to see that he makes good. This enthusiasm depends upon the campaign, and here is the first job for the public-spirited citizen, the first application of the formula of "work and talk."

The first step in the campaign is to get road facts. For instance, procure the records of work and money expended in your township by the Supervisor Board for the past years. In starting my work I addressed a public letter to every tax-payer, urging him to study what East Lampeter got for its road tax money in the years 1907 to 1910, when four road masters received a total of \$3,355.40 in wages, with no road improvement to show for their work, and when they had expended the amount of \$37,663.93 in disorganized "road patching." This brought the subject definitely to the mind of everybody. It is necessary to procure the official figures. I was not able to get them from our own Supervisor Board's books, so I went to the Lancaster Court House and looked up our township auditor's reports for each year.

Take another instance. An incompetent road supervisor tried to do a "pike" job with 109 perches of stone. He wanted to do it cheaply. He did not wish the price to appear very large, so he only used the 109 perches, and he went ahead without having the road surveyed or graded or laid with a proper bottom. The total money paid, as shown by the vouchers, was \$326.26 for the 109 perches, or \$2.99 1/3 per average perch, which was a shameful waste, and which fact was presented to the township thru the medium of a local newspaper.

Again, we needed a safe and much larger culvert than the old wooden ram-shackle affair which the road officials had been "piecing along" with. The farmers in the vicinity were not strong political adherents of the members of the road supervisor board, and "new concrete culverts cost money," the farmers were sternly informed. What did we do? We had a gathering of the farmers of that district, and in a body we waited upon the road supervisors. Actual measurements were taken, blue prints were drawn, estimates gathered, and all these facts were placed in the hands of the township tax-payers. The subject was kept going, and the antagonistic supervisors were given no peace. Finally, when the next year rolled around, and the matter was again brought to a head, a culvert was built. These facts were published and kept circulating. This is the sort of policy that any reader can adopt.

Take another instance. I mention my own township because I am most fa-

miliar with its conditions. In the year 1906 our Supervisor Board spent \$7,774.77 and did not save a single penny. In 1907, \$7,925.61 was spent and \$854.47 saved. In 1908, \$8,606.24 was spent and \$137.62 saved, and in 1910, \$11,778.41 was spent and \$210.33 saved. As we had almost nothing to show for such generous road expenses, the publication of these facts was a great help in getting the public to think about the subject of road improvement and some of the diseases which needed remedying. After my first year's work as a supervisor, when active campaigning was no longer necessary, and the farmers at last understood the true state of affairs, a slander was "nailed" because I had the figures.

One of the statements which served to defeat me the first year was: "If he is elected he will levy an extra three-mill tax in addition to the present three-mill tax, and he will try to pike all the township roads for the automobile people." After being elected and serving one year, I issued a statement to my township neighbors, showing that we



A TOWNSHIP CITIZEN WAS PROSECUTED FOR IMPROVING THIS ROAD AT HIS OWN EXPENSE.

had cut our expenses down to \$6,729.52; had installed nearly 2,000 feet of underground drainage pipe; cut off scores of water breakers; installed a Road Drag Patrol System costing but \$30 per mile for every one of our 42 miles of earth patrolled roads; drained, graded and piked two bad hills over 2,000 feet long; built 250 feet of four-foot sewer thru co-operation with the Pennsylvania Railroad, and still had \$1,233.60 in the treasury after first having reduced the old tax rate one-half mill. These are the kind of facts which you must present before the township tax-payers if you propose to do any really successful campaigning in your township.

The newspapers are not the only forces to help bring these facts before your community. Don't forget the big printed poster. In Lancaster County we call them "sale bills." Some people will stop and read them that fail to see the newspapers. If money is short, oftentimes ordinary hand circulars, thoroly distributed, will do a lot of good missionary work. Anybody who is really in earnest and who acts along intelligent lines, can soon knock out any clique of road barnacles that fails to "deliver the goods." Do not misunderstand me and think that I am a rabid anti-machine citizen. I'm not. Organization is absolutely necessary, but it must be an efficient, public-spir-

ited organization that works for better roads and not for the strong-arm opportunity to work the treasury.

Here is another hint: If your township needs road improvement and you are compelled to tackle the job, get your opponents to publicly declare their beliefs or their disbeliefs in any specific road improvement plan. Get a written record of this declaration with their names attached to it. Then present these records before the entire township community. The average farmer will quickly see the true state of affairs. When our Board prosecuted me for using the King Drag, I hauled them all into court to show cause why the injunction of the court should not be removed. I had every word of testimony written down by the court stenographer. It was printed and sent to every local tax-payer.

This testimony was further brought before the attention of the voters on big bill posters. These were pasted on telegraph poles, fences, barn doors, and hung in hotel corridors, local stores, etc. It proved to be powerfully good missionary work. Soon the township road question began to lose its hopeless atmosphere. It became a burning issue of public discussion around the blacksmith shops, the postoffice and the country store rooms. It was even quietly discussed at the country church. The fact became clearly recognized among the farmers that the Road Supervisorship was an important job. Its responsi-

use them intelligently and persistently.

Note.—This is the second of a series of articles on Better Roads Where You Live. The third will follow next week. No farmer who is interested in the improvement of local roads can afford to miss this series. Dr. McCaskey will also answer queries for readers relating to country earth road improvement.—The Editors.

Looking Over The Fence.

By THE COUNTRY PARSON.

Books for Farmers.

Oliver Wendell Holmes, in his "Astrucrat of the Breakfast Table," says: "All men are afraid of books who have not handled them from infancy." Is this perhaps the reason why you seldom see a library in a farmhouse? I cannot remember having seen many. Nor have I ever seen a set of plans for a farmhouse which made provision for anything more than one or two living-room book-shelves. Even the architects, who are usually anxious to introduce all sorts of features in their drawings, seem to be of the opinion that the farmer is afraid of books. The farmer may be somewhat to blame for this. As I know him, he has about the same regard for book-farming that I have for book-preaching. With this difference: I am fond of reading about other preachers and other men's sermons, even if I do not adopt their methods. The farmer ordinarily does neither. His contempt for book-farming is so strong that it makes him forego the pleasure of reading any thing besides an agricultural journal and an occasional bulletin.

Perhaps he has no time for serious reading. The literary ensilage prepared for his consumption by some popular agricultural journals in the form of "letters to the editor" would indicate that this may be a rather widespread opinion. I do not object to these communications. Some of them are very interesting and helpful. What I object to is this style of editing any serious publication. Just think of converting the columns of any other periodical or even a daily paper into one big mail-bag department, where all the subscribers rehearse their experiences and air their views. It reminds me of the players in an orchestra tuning up before a concert. If we take the deep growl of the double bass for the editor with the softer cellos for his assistants, the piccolos and flutes for the women correspondents discussing domestic science and fancy work; the violins and violas, the general body of correspondents; then the cornet and trombone will stand for the men who really have something to say. Unfortunately, they are in the minority—overawed and silenced by the noise of the other instruments. You hear only a confused grumble of sound; nothing definite and positive. Some people may accept this for music. I prefer a little more harmony, both for my ear and my understanding. Despite the seeming success of some of these agricultural correspondence bureaus, I am inclined to think that the real farmer shares my tastes. He reads these publications for amusement rather than for profit.

This brings us back to our subject. The farmer, like every other man, should have a library, both for his own sake and the sake of his children. In his famous little tract on "The Pleasures of Life," Sir John Lubbock has two whole chapters on "books," besides a chapter on "education," which

without books, is today impossible of attainment. His title for the first chapter is "The Song of Books," and he opens it with a quotation from Richard de Bury, Bishop of Durham, author of "Philobiblion," published as long ago as 1473, and the earliest English treatise on the delights of literature: "These are the masters who instruct us without rods and ferules, without hard words and anger, without clothes or money. If you approach them, they are not asleep; if investigating, you interrogate them, they conceal nothing; if you mistake them, they never grumble; if you are ignorant, they cannot laugh at you." Among many others, he also quotes Dr. Isaac Barrow, who lived 200 years later than de Bury and resigned his chair of mathematics at Cambridge to Sir Isaac Newton in order to devote himself to the study of theology: "He that loveth a book, will never want a faithful friend, a whole-some counsellor, a cheerful companion, an effectual comforter. By study, by reading, by thinking, one may innocently divert and pleasantly entertain himself, as in all weathers, so in all fortunes."

If books are so essential to the pleasures of life, many farmers certainly deprive themselves and their families of much pleasure. His other chapter is entitled "The Choice of Books." In it he speaks of consulting Darwin as to the selection of a course of study. "He asked me," says Lubbock, "what interested me most, and advised me to choose that subject." This was, of course, very good advice, for a man ought to read for profit as well as pleasure. He ought to have, not merely a general, but what we today call a "working library." The farmer is just as much of a specialist as the doctor or the minister. He therefore should have books especially prepared for his particular needs. These should form the bulk of his library, just as books on surgery are bound to form the bulk of a surgeon's library.

But here is the rub. How shall he select it? There are plenty of lists of a hundred good books for the guidance of the general reader. The most recent of them, I think, caused much comment by omitting the Bible; possibly because the man who prepared it assumed that Book to be in everybody's hands. But I had never seen such a list prepared for a farmhouse library until Extension Bulletin No. 8 of Purdue University came into my hands.

I had often thought of what I would like in the way of books for my farmhouse. Omitting the Book of Books, which I want neither on the library shelves nor on the parlor center table, but in the family living room, I think I would like a good general encyclopedia and a good English dictionary—say Webster's or the Standard. Then I want Dean Bailey's Cyclopaedia of American Agriculture. I also want Dean Butterfield's Chapters in Rural Progress. Having laid a solid foundation for my collection, I could then afford to specialize, carefully avoiding partisanship. For instance, if I bought Dr. Cyril Hopkins' "Soil Fertility and Permanent Agriculture," I would immediately buy Hall on "Fertilizers and Manures," and the "Feeding of Crops and Stock." Having bought the dote (is there such a word) I would also buy the antidote.

This bulletin on "Agricultural Books for Farm Houses, School and Public Libraries, Premiums in Young People's Contests, Corn Shows, etc." is a most helpful publication. I wish that the author would write another bulletin, telling us just why he selected this or

that book with a few words on the standing in agricultural science of their respective authors. The resources of my shelf room and my pocketbook are limited. I therefore want only books written by authorities in real eminence and widest possible knowledge in the various departments of agricultural science.

Such a bulletin would not only be most helpful to me, but it would help many other farmers, who are neither afraid of books nor willing to forego the pleasure and profit that comes thru the ownership and use of what every twentieth century farmer should have—a good working library.

Grange

THE STATE GRANGE MEETING.

The 41st annual session of the Pennsylvania State Grange was held in Reading December 9-12 with a splendid attendance and fine enthusiasm. Under the able leadership of our Worthy Master Crensy, Pennsylvania led all the other states in the work of organization and the same aroused spirit among the membership that led to the organization of 57 granges caused the delegates to enter into the work of the state meeting with zest and earnestness; so that every session, even to the very last, was well attended. In fact, the audience was so large that those in the rear could hear but little of the proceedings. It would seem that our meetings should be held in a large theatre rather than in an armory. Those who come to the state meeting are usually interested in all that goes on, and the acoustic properties of a building must be taken into consideration almost as much as the seating capacity. The State Master's address was strong and invigorating, excerpts being printed in last week's issue.

The Worthy Overseer's report was well prepared, dealing principally with the road question, our tariff policy, and the Mexican situation. In connection with the tariff he said: "In framing the present tariff law, the farmer was discriminated against. There is neither equity nor justice in a law that compels the farmer to sell his products in an open market and buy in a protected one. The grange slogan should be 'Tariff for All or Tariff for None.'"

Mr. Maurer, president of the state federation of labor, appeared before State Grange to explain the workmen's compensation bill plan. He made an able presentation of the subject. The Grange decided that while some form of relief should be insured to those who work in hazardous places and occupations, such a system should not hold in occupations that are not hazardous. However, the Grange is studying the question, and decided to confer further with the representatives of labor. No doubt some plan satisfactory to the farmers would have been found ere this if farmers had been represented on the commission which studied this subject.

We cannot give the strong points of all the resolutions and reports. The Grange defined the immediate work on the liquor question to be a law against treating and to compel clubs to take out license. On woman suffrage, we heard a strong presentation of the suffrage side from a suffrage promoter, Senator Clapp, of Minnesota, also favorable votes for women. Mrs. George M. Hollett, in her Pomona report, brought out the anti-suffrage position in a point-

ed and pleasing way. We were very fortunate in being able to have with us the star speakers of the Bull Moose banquet held at Reading on Thursday night. Hon. Moses E. Clapp, spoke in his powerful way about progressive politics.

Hon. Clyde Kelly, congressman from Pennsylvania, made a very apt speech along the same line, giving the Grange credit for supporting the initiative and referendum and other progressive legislation. Hon. Gifford Pinchot made a fine address on co-operation, pointing out different lines of operation in this great field of labor. He closed his address by saying that co-operation could only be worked out by organization, and he made a strong appeal therefor. The question of rural education was thoroly discussed. Manual training in the schools of the country was advised. An effort was made to have the Grange provide a few scholarships at State College, but the plan was defeated. Centralization of the public schools was favored wherever the local conditions would admit of it.

The class for the sixth degree was smaller than usual, due, no doubt, to the fact that the county of Berks and most of the surrounding counties do not have a large number of granges. The class was something over 300. The election for a member of the executive and finance committees resulted in the re-election of Bro. Dildine, of Columbia county, to the executive committee. Bro. Grabe, of Butler county, was returned to the finance committee. At the same time the granges having stock in the Keystone Exchange elected Bro. Gifford, of Erie county, to the directorship of the exchange.

An hour was set aside for memorial exercises, and a very impressive service was held for Bro. Ailman. A large number of Patrons spoke, among whom were Bros. Clark, of Westmoreland; Herr, of Clinton; Worthy Master Crensy, D. B. Esh, of Juniata; J. G. McSparran, of Lancaster; Bond, of Northumberland, and Chaplain Teagarden, who presented the report for the memorial committee. Even after the exercises had been closed, there were those who wished they could have added a word. Bro. Ailman will be greatly missed in many ways. The Grange passed a resolution commending the appointment of Sister Ailman to fill the unexpired term as secretary of State Grange. Telegrams of greeting and sympathy were sent to Bro. Whitehead in California; Brother and Sister Wolcott, Past Master Kentucky State Grange, and Bros. Nevine and Sharpless, of Chester county.

The report of the commissioner to Europe was awaited with eagerness. It will no doubt be published in full in the Grange official organ. A splendid technical report was made by Bro. Heath on the question of fire insurance, in which fire prevention as well as insurance regulations were carefully explained. The report of the finance committee showed a fine balance on hand and growing steadily larger. A wide program of legislative work was presented by the legislative committee and adopted by the Grange. Especially important at present is the Grange plan for handling the road proposition without bonds, a summary of which follows:

Road Policy.—"The Grange is a pioneer on the question of road building. We did what we could as an organization to defeat the bond issue because it was contrary to our ideas of what a practical road system should include, and we rejoice that the people of Pennsylvania have likewise given their definite disapproval of the proposition. But opposition to the road issue does not

mean, as some have assiduously declared, opposition to good roads, and we are convinced that Pennsylvania is ready to enter upon a practical system of good roads for everybody.

"We hold that, as everybody gets the benefit of good roads, everybody should help to pay for them, and because the great majority of roads are essentially local in character, the control of the roads should be vested in the local officials. In order that the state and county might have authority over the money appropriated for road building, the roads should be systematized and classified, and the appropriation graduated according to the kind of work accomplished. A county superintendent of roads should be elected by the people to oversee the work of each county, and to advise with the township supervisors relative to their work. There should be maintained at Harrisburg a Highway Department, sufficient in size and ability to make out specifications for the several grades of roads, to issue from time to time, but at least annually, to the county superintendent and supervisors, bulletins on improved plans on road building and maintenance.

"In order to inaugurate a complete system of roads, we insist that the sum of \$7,000,000 be appropriated annually, and that the money be distributed to the several counties and townships. This money is available; if not under the present operations of our tax law, it can be made available under our recommendations of tax revision which we have advocated for several years.

"We dare not forget that the fight for a good system of road building and maintenance is just begun. When we realize that the control of our township roads was taken from the townships by the last legislature in the passage of the 1913 Dirt Road bill, which should be repealed, we can be sure that it will mean a strong and determined effort to wrest this great public service from political domination, and restore it as a part of our system of transportation for the benefit of all the people. The need confronting us at present is for a legislature, Governor and Highway Department that will be responsive to the just demand of good roads for everybody, and we should, as grangers in all parties, work continuously to accomplish this worthy end. The powers of the township should be enlarged instead of being curtailed.

"We favor the use of the convicts on the public highways under public supervision. Our national policy is not different from our state policy on the subject of roads. We think Congressman Shackleford, in his address before the Good Roads Congress at Detroit, struck the keynote of the whole proposition when he said "It is not a road, nor yet a few roads, that we want: what we must have is a general system of good roads extending thruout the length and breadth of the land." If the time has come when the present government shall enter upon the policy of aid for road construction, we insist that such appropriation shall not be spent upon engineering, but shall be a supplementary appropriation to that of the state and handled by the then-existing machinery of the state, subject to national inspection and supervision."

Altogether the meeting was a good one. One cannot catalogue all the good points and impressions, but one thing is sure: The Grange in Pennsylvania is making lengthy strides forward, and if damaging mistakes can be avoided, and honest and progressive leadership maintained, there is no reason why it cannot accomplish great things, not only for the farmers but for all the people of the state.—John A. McSparran.

Household

WHAT WE OWE TO VALLEY FORGE.

There are two things every American ought to do, in my opinion, at least once in his or her lifetime. One is to read "A Man Without a Country," by Edward Everett Hale, and the other is to visit Valley Forge. By doing these, he would get a new inspiration, a new conception of patriotism that would uplift him and his children and make towards a greater America. Not every one in this country is so fortunately situated, however, that he can do these things. Those who live in this state are particularly fortunate. The story of "The Man Without a Country" may be bought as low as 25 cents at times and for 50 cents almost anywhere.

Visiting Valley Forge is expensive for those who live at a distance, but the state of Pennsylvania has made Valley Forge Park so beautiful and takes such good care of it, and the different patriotic societies have done so much to restore huts, buildings, rooms and ramparts in commemoration of the winter of 1777, where the American soldiers suffered and died from privation on the bleak hillsides of Val-

ley Forge, that a trip to this historic spot is well worth the expense.



VIEW OF WASHINGTON'S HEADQUARTERS AT VALLEY FORGE. Showing Main House, Kitchen and Wash House. Ventilator to Cellar is Shown in Foreground.

The park is rich in natural beauty, enhanced by skillful landscape gardening. It calls to mind, by monuments, inscriptions, fortifications, relics, markers, chapel and museum, the heroism of the patriots who made the free, rich America of today possible. For it was at Valley Forge that "Washington, with the help of Baron Steuben, was making the army ready for greater deeds. Here the little state armies were melted into the army of the United States."

It was in October that we had the opportunity to visit Valley Forge, and to my mind it is the ideal time of year to go there. The crisp, cool air filled the lungs, giving a wine-like tonic to the system and making walking delightful. The warm autumnal tints of the leaves lent a charm to every view. Our sight-seeing started with Washington's Headquarters, the quaint colonial building at the entrance of the park, just across from the railway station. The whole house is interesting—the quaint bake ovens, the chapel, the cemetery, fireplaces with enticing cupboards built in the chimney nooks, and the colonial furnishings of the bed chambers all are charming. But to me the most interesting places in this building were the kitchen, the washroom and the cellar.

The old-fashioned cupboard and the fireplace with its cranes, Dutch oven, spits and spiders, seemed so odd when compared with the modern kitchen. As a housekeeper I was truly thankful then and there that I did not have to cook the family meals in a fireplace. It looked very romantic, but I could imagine from experience of refractory stoves that it might be trying, and I could imagine also that stately Martha Washington must have been a little flustered inside when she stepped out into the kitchen to give orders for the entertainment at dinner of, say, General Knox, Baron Steuben, General Wayne and others.

The washroom, or pumphouse, with its brick floor, is a modern addition, and is of peculiar interest because it is said to cover the secret passage which led to the river, and by which, report says, Washington once made a narrow escape. I could not help wishing, as I stood in the cellar, that all farm houses had as good a cellar, with a vaulted roof and cold ventilator.

From Washington's Headquarters we walked up the Old Gulf Road to the intrenchments. It is stony and steep enough to make you thankful you have on shoes when you walk along. And you wonder how the American soldiers ever walked barefoot down those paths to say nothing of carrying drinking water and firewood up them. And it is no myth about the soldiers going barefoot that winter, for Washington reported to Congress, "Two thousand eight hundred and ninety-eight were unfit for duty because either barefoot or otherwise naked." One historian

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A COMMUNITY CHRISTMAS.

Just now when the magazines and papers are filled with enthusiasm over the community Christmas trees that are being put up in our large cities, our minds naturally turn to the question as to what we who live in the country villages can do along that line. There is not the same necessity to have a community or neighborhood Christmas tree as in the crowded cities, for even the poor in the country can usually secure a tree for nothing. But there are lonely and sad ones (both rich and poor) in the country villages as well as elsewhere. So let us see if there is not something we can do to get back the real spirit of Christmas.

The family celebration of Christmas is most delightful when the absent ones return to the home. The tree is put up and trimmed, and the house decorated with the greens and red berries brought in from the woods. The house is redolent with the spicy odors from the kitchen and everyone is full of anticipation over the surprises to be revealed when "Merry Christmas" really arrives.

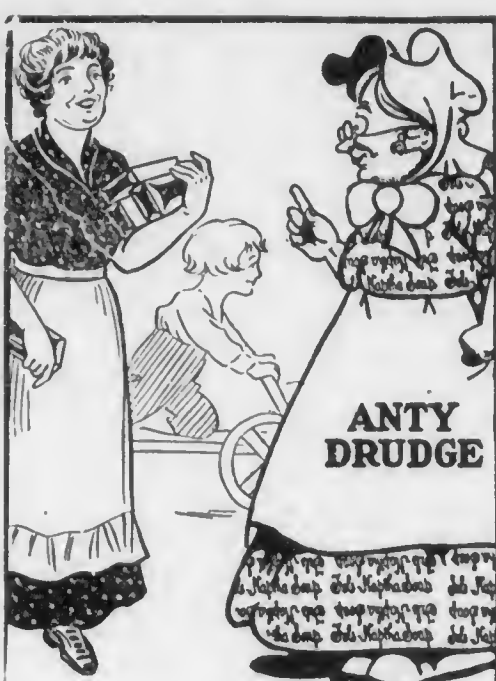
Now think what Christmas really means—the birthday of the "Christ Child," who was born to save the whole world. Not for one moment would we do away with the family celebrations so dear to us all, but can we not have the broader view of Christmas in our hearts that will take in the whole world. As the large cities send forth a big bright shining light, let us have our lesser lights so that there may be a continuous string of lights on Christmas eve, celebrating the greatest event the world has ever known. If not practical to have a tree, let us get the people interested in lighting up their houses, gathering together to sing the Christmas carols. If all cannot sing well, no matter. Let all do their best in having some share in the community Christmas idea and we will probably never know how many lonely hearts have been cheered by the endeavor to spread "the peace and good will toward men" of the angels' song in Bethlehem. —L. P. Burkart, Bucks Co., Pa.

GREEN THINGS GROWING.

October 10 and our yard is as riotous in flowers as in summer. We have banks of cosmos, red and pink and white, a solid mass of the dainty blooms. They look as if they had everything in the world to make them feel good. Then the nasturtiums are creeping all over the wire fence along the driveway, and they, too, show that they feel good. The clean, round leaves and in between, the brightness of the

three thousand who perished in three months at Valley Forge, of men and officers, but one grave is marked, that of Lieutenant Waterman.

Valley Forge Park is beautiful, as I have said. But my object in describing it is not so much to describe the beauties of nature as it is to inspire and re-ignite the fires of patriotism that will make us truly thankful for our united country; thankful for the plain, every-day heroes who loved their country well enough to endure privation, hunger and cold that they might help to make her free. And this plain, every-day heroism is the hardest kind, the severest test of character. We can all rise to great occasions, cheered by the multitude, easier than we can bear heroically the every-day sordid trials, without sympathy or applause. At this Christmas time, when we are warm and well fed, let us remember the days of cold and hunger at Valley Forge.—Nevada Davis Hitchcock.



Miss Carefree: "I have to laugh every time I think of Tommy. He was pretending to be an automobile this morning. I told him to run to the store and get me some Fels-Naptha Soap, and he said 'I'm awfully sorry, Mother, but I'm all out of gasoline.' He went, though, I just can't get along without Fels-Naptha."

Anty Drudge: "No woman can, after she once uses it. Lots of people buy it by the box and always have some on hand."

Fels - Naptha Soap lightens woman's work, gives her time for rest and pleasure, makes her strong, well and happy. Fels - Naptha makes washing easy. Soap the clothes to be washed, put them to soak for about 30 minutes in cool or lukewarm water and when you come to wash them, the dirt will roll out, leaving them white, sweet and clean with no hard rubbing and no boiling.

Fels-Naptha cleans and brightens everything it touches. Follow directions on the red and green wrapper.

Better buy it by the carton or box
Fels & Co., Philadelphia.



blossoms, for what is there as bright and cheerful as nasturtiums? I call them bottled sunshine. It seems to me they have drawn the very rays of the sun into their petals.

Do flowers cost much? No, not in money, only in a little thought at the right time. We commenced at the lowest rung of the ladder to get "green things growing." A lawn was made first, and while the grass was growing we went to the woods and gathered joy to last thru the years.

A dog-wood tree was transferred from its woodland home to our side yard. How it has grown, and now it blooms early each year, a delightful harbinger of spring. The tree is pretty, and the blossoms make it beautiful. We also transplanted a magnolia tree, which has grown as high as the back part of the house, and from it we gather the very earliest magnolias to be found, also the latest you find in this section. It is a continual joy thruout the season. We have a dozen other magnolia trees now, and most of them big enough to bloom. The magnolias and ferns are placed in damp, shaded places. We gather the blossoms just as the fronds are unfolding from the ground, and they will grow back of the neck about two inches

long and cut off the neck as close to the back as possible. Remove the head, turn back the skin, and take away the crop and windpipe, leaving the skin of the neck. Insert the forefinger and loosen the heart, etc. If the fowl is to be stuffed, remove the wishbone. Make a small opening at the lower end of the bird, and carefully take out all the liver; slit the gizzard, remove the inner skin and its contents, and cleanse the gizzard thoroughly. Put aside the liver, gizzard and neck. Next draw the legs by cutting the skin between the foot and first joint, and pull out the sinews, which resemble white strings (in a turkey this is best done by putting in a wooden skewer and twisting it till the sinews are wrenched loose), chop off the toes, and dip the legs and feet into boiling water to enable you to peel off their outer skin. Wash the inside of the bird until it is clean.

Trussing.—Dressing must now be inserted, allowing some of it to come where the neck and wishbone were removed. Draw the skin of the neck over it and over the back. Turn back the end joints of the wings, putting the liver into a slit in one wing and the gizzard into the other. Hold the bird with the left hand on a table, and with the right push the legs as far back as possible. Pass a trussing needle, threaded with string, thru the wing, both legs, and the second wing; turn the chicken over, and pass the threaded needle thru the shoulder bones on the back; pull firmly and tie tightly. Pass the needle

TRUSSING AND DRESSING POULTRY.

To Prepare a Fowl for Trussing.—Having plucked the bird and singed it, make an incision in the skin at the back of the neck about two inches



SUNNY HOMECROFT, CUMBERLAND CO., N. J.

on the north side of the house and rival house-ferns in grace and beauty.

We had a bed of red and pink carnations this summer which was a marvel of beauty. They were in the back yard and grew from seed. Of course it took two years, but we had other things blooming in the bed while the carnations were coming on. As soon as the carnations were thru blooming and the seed was dry, it was sown and new plants came up. These will be ready to bloom next summer. Scarlet sage is another gay and cheerful flower well worth having in abundance. One can have some kind of flowers every month in the year, and many kinds most of the months.

The roses and chrysanthemums bloom very late. We are already arranging our bulbs for winter forcing, expecting to have the most dainty creations of fragrance and color come to us with the new year. Just a few bulbs purchased each year add to the store of pleasure. A few single daffodils are dug from the ground every two weeks and the warmth of the heater and a sunny window force them to continuous bloom until the time comes when nature makes them break forth out of doors without help.

There are so many hardy bushes and plants one can have to add to the beauty of the home. The little wisteria which came to us by mail has now reached the very top of the house and screened one end of the veranda so that I do not need to buy any Japanese screens to shut out the sun or the pub-

lic. A crimson rambler has made a rose arch at our entrance. A privet hedge was started from clippings some one had thrown away. A luxurious lot of peonies have been in the ground from generation to generation. The next generation can rise up and call us blessed from the lilacs and other things we are putting out.

The sweet peas are planted as soon as the earth thaws enough to work the ground in the spring. No matter what kind of weather comes afterward, get them in deep and early. Where the sweet peas bloomed, the nasturtiums are now claiming every inch of space. Life seems more worth living with beautiful flowers to look at. They make a cheerful environment; they furnish flowers for the table and house, and a great deal of pleasure is derived from carrying them to sick and less fortunate friends.—Cora Jane Sheppard.

EASY MOPPING.

My way of mopping the kitchen floor quickly and easily is so simple that I wonder I did not think of it years ago. Perhaps some of you may have. I have two mop sticks. On one of these I have the mop cloth proper, which, by the way, is made from an old pair of trousers. One leg was cut off, trimmed and sewed together on the machine. In the second mop stick I have a good-sized piece of old cotton flannel which is soft and absorbent. With some good hot soap suds in the mop or scrub pail, and these two mops, it takes but a few minutes to make a pretty dirty floor look and be clean.

I dip the mop cloth in the hot soap suds and rub the floor briskly with that, taking care to go the long way of the boards. Then I follow with the second or dry mop, drying the boards quickly and easily with the large, soft cloth. When the water in the pail gets dirty, it is thrown out and fresh hot soap suds are put in. It is never good policy to put dirty water on a floor, as it makes the floor look clean for a few minutes and then it is worse than before. By using one mop to clean and the other to dry, I find my work much lightened and well worth the extra expense. Each mop stick costs but ten cents, and the extra labor of getting two mop cloths ready and keeping them clean is not much.—N. D. H.

PENNSYLVANIA FARMER PATTERNS.

Be sure to give the figures and letters of each pattern exactly as printed at the beginning of each description. We will not be responsible for correct fitting of your orders unless you do so. Also give bust measure when ordering waist patterns, waist measure for skirt, and age for children's patterns. Address: Pennsylvania Farmer, 214-18 So 12th St., Philadelphia, Pa.

6452—Children's Night Drawers.—Six sizes, 2 to 12 years. Age 8 years requires 3 1/2 yards of 36-inch material. 1/2 yard edging for neck. Price of pattern, 10 cents.

5865—Ladies' Dress, With High or Low Neck and Three-Piece Skirt.—Six sizes, 32 to 42 inches bust. Size 36 requires 4 1/2 yards of 36-inch goods; 1/2 yard of 27-inch contrasting goods. Price, 10 cents.



6457—Rag Doll With One-Piece Dress and Bloomers.—Three sizes, 16, 20 and 24 inches in length. For doll 24 inches, it requires 1/2 yard of 36-inch material. For dress and bloomers, 1 1/2 yards of 36-inch material; 1 yard of ribbon. Price, 10 cents.

4595—Boys' Suit; Trousers Without Fly.—Sizes 2, 4 and 6 years. Age 1 requires 3 1/2 yards, 27 inches wide; 1/2 yard contrasting goods, 27 inches wide. Price, 10 cents.

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Winston of the Prairie

By HAROLD BINDLOSS

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SYNOPSIS OF PREVIOUS CHAPTERS.

Farmer Winston, having failed as a homesteader, desperate, accepts a proposal to simulate Lance Courthorne, an adventurer. Courthorne and his pals are thus able to carry thru some smuggling operations. In the clash with the police, Courthorne kills Trooper Shannon, leaving evidence pointing to Winston as the murderer. The scene shifts to Silverdale, founded by Colonel Barrington. The Colonel is worried over wheat operations and the coming advent of Lance Courthorne, cousin to Maud Barrington, niece and ward of Colonel Barrington, to claim his share of his father's estate. Maud Barrington is told of Courthorne's past misdeeds. Winston, meanwhile, has pushed on to Montana, being held and later released, for lack of evidence, by a government officer, who discloses the belief on the part of the police, that Winston is the murderer of Trooper Shannon. A letter for Courthorne is opened by Winston. Complying with instructions therein, he meets and confers with a lawyer respecting Courthorne's inherited assets at Silverdale, and following out his role as simulator of Courthorne, goes to Silverdale and in there received as graciously as could be expected. Some of his actions fail to tally with Courthorne's reputation. He wins the good will of Dane, one of the Colonel's advisers. The real Courthorne, who was supposed to have been drowned during the smuggling adventure, now reappears in Montana, inadvertently learns of his inheritance, and pieces together conclusive evidence that Winston has gone to Silverdale. Courthorne and Abby Blake, whose life he has blighted, agree to ignore each other's identity. Winston and Maud Barrington, caught by a blizzard while driving to Silverdale, and shelter in a deserted shed over night, where he acts the part of a considerate gentleman. Maud Barrington promises Winston to sow her land in wheat the following spring. Under criticism from the Colonel, Winston begins planting operations. He is commended by Maud Barrington for successful efforts to break the gambling habits of Ferris, a young Englishman, a task undertaken on her request. Maud Barrington and her aunt visit Winston's cabin on a business errand, at which time he still maintains his belief that the price of wheat will rise, an opinion concurred in by few.

CHAPTER XV.—(Concluded.)

"Almost," said Winston. "Still, there are a few much cleverer men who feel as I do. I can't give you all my reasons, or read you the sheaf of papers from the Pacific slope, London, New York, Australia, but while men lose hope, and little by little the stocks run down, the world must be fed. Just as sure as the harvest follows the sowing, it will wake up suddenly to the fact that it is hungry. They are buying cotton and scattering their money in other nation's bonds in the old country now, for they and the rest of Europe forget their necessities at times, but it is impossible to picture them finding their granaries empty and clamoring for bread?"

It was a crucial test of faith, and the man knew it, as the woman did. He stood alone, with the opinions of the multitude against him, but there was, Maud Barrington felt, a great if undefinable difference between his quiet resolution and the gambler's recklessness. Once more the boldness of his venture stirred her, and this time there was a little flash in her eyes as she bore witness to her perfect confidence.

"You shall have the land, every acre of it, to do what you like with, and I will ask no questions whether you win or lose," she said.

Then Miss Barrington glanced at him in turn. "Lance, I have a thousand dollars I want you to turn into wheat for me."

Winston's fingers trembled, and a darker hue crept into his tan. "Madam," he said, "I can take no money from you."

"You must," said the little, white-haired lady. "For your mother's sake, Lance. It is a brave thing you are doing, and you are the son of one who was my dearest friend."

Winston turned his head away, and both women wondered when he looked round again. His face seemed a trifle drawn, and his voice was strained.

"I hope," he said slowly, "it will in some degree make amends for others I have done. In the meanwhile, there are

reasons why your confidence humiliates me."

Miss Barrington rose and her niece after her. "Still, I believe it is warranted, and you will remember there are two women who have trusted you, hoping for your success. And now, I fancy we have kept you too long."

Winston stood holding the door open a moment, with his head bent, and then suddenly straightened himself.

"I can at least be honest with you in this venture," he said with a curious quietness.

Nothing further was said, but when his guests drove away Winston sat still a while and then went back very grim in face to his plowing. He had passed other unpleasant moments of that kind since he came to Silverdale, and long afterwards the memory of them brought a flush to his face. The excuses he had made seemed worthless when he strove to view what he had done, and was doing, thru those women's eyes.

It was dusk when he returned to the homestead, worn out in body but more tranquil in mind, and stopped a moment in the doorway to look back on the darkening sweep of the plowing. He felt with no misgivings that his time of triumph would come, and in the meanwhile the handling of this great farm with all the aids that money could buy him was a keen joy to him; but each time he met Maud Barrington's eyes he realized the more surely that the hour of his success must also see accomplished an act of atonement, which he wondered with a growing fear whether he could find the strength for. Then as he went in a man who cooked for his hired assistants came to meet him.

"There's a stranger inside waiting for you," he said. "Wouldn't tell me what he wanted, but sat right down as if the place was his, and helped himself, without asking, to your cigars. Wanted something to drink, too, and smiled at me kind of wicked when I brought him the cider."

The room was almost dark when Winston entered it, and stood still a moment staring at a man who sat, cigar in hand, quietly watching him. His appearance was curiously familiar, but Winston could not see his face until he moved forward another step or two. Then he stopped once more, and the two saying nothing looked at one another. It was Winston who spoke first, and his voice was very even.

"What do you want here?" he asked. The other man laughed. "Isn't that a curious question when the place is mine? You don't seem overjoyed to see me home to life again."

Winston sat down and slowly lighted a cigar. "We need not go into that. I asked you what you want."

"Well," said Courthorne dryly, "it is not a great deal. Only the means to live in a manner more befitting a gentleman than I have been able to do lately."

"You have not been prospering?" and Winston favored his companion with a slow scrutiny.

"No," said Courthorne laughed again. "You see, I could pick up a tolerable living as Lance Courthorne, but there is very little to be made at my business when you commence in new fields as an unknown man."

"Well," said Winston coldly, "I don't know that it wouldn't be better to face my trial than stay here at your mercy. So far as my inclinations go, I

would sooner fight than have any further dealings with a man like you."

Courthorne shook his head. "I fixed up the thing too well, and you would be convicted. Still, we'll not go into that, and you will not find me unreasonable. A life at Silverdale would not suit me, and you know by this time that it would be difficult to sell the place, while I don't know where I could find a tenant who would farm it better than you.

"Tell Tom in the stables to let you have your choice," said Winston. "If you like them, there's no reason you shouldn't take some of these cigars along."

The sergeant went out, and when the beat of hoofs sank into the silence of the prairie, Winston called Courthorne in. "I have offered you no refreshment, but the best in the house is at your service," he said.

Courthorne looked at him curiously, and for the first time Winston noticed that the life he had led was telling upon his companion.

"As your guest?" he asked. "Yes," said Winston. "I am tenant here, and that I may owe you nothing, purpose paying you a second thousand dollars when the crop is in, as well as bank-rate interest on the value of the stock and machines and the money I have used, as shown in the documents handed me by Colonel Barrington. With wheat at its present price nobody would give you more for the land. In return, I demand the unconditional use of the farm until within three months from harvest. I have the elevator warrants for whatever wheat I raise, which will belong to me. If you do not agree, or remain here after sunrise tomorrow, I shall ride over to the outpost and make a declaration."

"No," said Winston grimly, "not in the least. We will talk business together when it is necessary, but I can only decline to discuss anything else with you."

Courthorne laughed. "There's nothing to be gained by pretending to misunderstand you, but it wouldn't pay me to be resentful when I'm graciously willing to let you work for me. Still, I have been inclined to wonder how you were getting on with my estimable relatives and connections. One of them has, I hear, unbent a trifle towards you, but I would like to warn you not to presume on any small courtesy shown you by the younger Miss Barrington."

Winston stood up and set his back to the door. "You heard my terms, but if you mention that lady again in connection with me, it would suit me equally well to make good all I owe you very differently."

Courthorne did not appear in any way disconcerted, but, before he could answer, a man outside opened the door.

"Here's Sergeant Stimson and one of his troopers wanting you," he said.

Winston looked at Courthorne, but the latter smiled. "The visit has nothing to do with me. It is probably accidental, but I fancy Stimson knows me, and it wouldn't be advisable for him to see us both together. Now, I wonder whether you could make it fifteen hundred dollars."

"No," said Winston. "Stay if it pleases you."

Courthorne shook his head. "I don't know that it would. You don't do it badly, Winston."

He went out by another door, almost as the grizzled sergeant came in and stood still, looking at the master of the homestead.

"I haven't seen you since I came here, Mr. Courthorne, and now you remind me of another man I once had dealings with," he said.

Winston laughed a little. "I scarcely fancy that is very civil, Sergeant."

"Well," said the prairie-rider, "there is a difference, when I look at you more closely. Let me see, I met you once or twice back in Alberta?"

He appeared to be reflecting, but Winston was on his guard. "More frequently, I fancy, but you had nothing definite against me, and the times have changed. I would like to point that out to you civilly. Your chiefs are also on

good terms with us at Silverdale, you see."

The sergeant laughed. "Well, sir, I meant no offense, and called round to requisition a horse. One of the Whitesod boys has been deciding a quarrel with a neighbor with an axe, and while I fancy they want me at once, my beast got his foot in a badger-hole."

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high level, and as he waited for her to speak, a fit of passion shook him. It betrayed itself only by the sudden hardening of his face.

"It is the first time I have surprised you idle. You were dreaming," she said.

Winston smiled a trifle mirthlessly. "I was, but I am afraid the fulfillment of the dreams is not for me. One is apt to be pulled up suddenly when he ventures overfar."

"We are inquisitive, you know," said Maud Barrington; "can't you tell me what they were?"

Winston did not know what impulse swayed him, and afterwards blamed himself for complying, but the girl's interest compelled him, and he showed her a little of what was in his heart.

"I fancied I saw Silverdale gorging the elevators with the choicest wheat," he said. "A new bridge flung level across the ravine where the wagons go down half-loaded to the creek; a dam turning the hollow into a lake, and big turbines driving our own flouring mill. Then there were herds of cattle fattening on the strippings of the grain that wasteful people burn, our products clamored for, east in the old country and west in British Columbia—and for a back-ground, prosperity and power, even if it was paid for with half the traditions of Silverdale. Still, you see it may all be due to the effect of the fierce sunshine on an idle man's fancy."

Maud Barrington regarded him steadily, and the smile died out of her eyes. "But," she said slowly, "is all that quite beyond realization. Could you not bring it about?"

Winston saw her quiet confidence and something of her pride. There was no avarice in this woman, but the slight dilation of the nostrils and the glow in her eyes told of ambition, and for a moment his soul was not his own.

"I could," he said, and Maud Barrington, who watched the swift straightening of his shoulders and lifting of his head, felt that he spoke no more than the truth. Then with a sudden access of bitterness, "But I never will."

"Why?" she asked. "Have you grown tired of Silverdale, or has what you pictured no charm for you?"

Winston leaned, as it were wearily, against the wheel of the mower. "I wonder if you could understand what my life has been. The crushing poverty that rendered every effort useless from the beginning, the wounds that come from using imperfect tools, and the numb hopelessness that follows repeated failure. They are tolerably hard to bear alone, but it is more difficult to make the best of them when the poorly-fed body is as worn out as the mind. To stay here would be—paradise—but a glimpse of it will probably have to suffice. Its gates are well guarded, and without are the dogs, you know."

Something in Maud Barrington thrilled in answer to the faint hoarseness in Winston's voice, and she did not resent it. She was a woman with all her sex's instinctive response to passion and emotion, though as yet the primitive impulses that stir the hearts of men had been covered if not wholly hidden from her by the thin veneer of civilization. Now, at least, she felt in touch with them, and for a moment she looked at the man with a daring that matched his own shining in her eyes.

"And you fear the angel with the sword?" she said. "There is nothing so terrible at Silverdale."

"No," said Winston. "I think it is the load I have to carry I fear the most."

For the moment Maud Barrington had flung off the bonds of conventionality. "Lance," she said, "you have proved your right to stay at Silverdale, and

would not what you are doing now cover a great deal in the past?"

Winston smiled dryly. "It is the present that is difficult," he said. "Can a man be pardoned and retain the offense?"

He saw the faint bewilderment in the girl's face give place to the resentment of frankness unreturned, and with a little shake of his shoulders shrank into himself. Maud Barrington, who understood it, once more put on the becoming reticence of Silverdale.

"We are getting beyond our depth, and it is very hot," she said. "You have all this hay to cut!"

Winston laughed as he bent over the mower's knife. "Yes," he said, "it is really more in my line, and I have kept you in the sun too long."

In another few moments Maud Barrington was riding across the prairie, but when the rattle of the machine rose from the sloop behind her, she laughed curiously.

"The man knew his place, but you came perilously near making a fool of yourself this morning, my dear," she said.

It was a week or two later, and very hot, when, with others of his neighbors, Winston sat in the big hall at Silverdale Grange. The windows were open wide and the smell of hot dust came in from the white waste which rolled away beneath the stars. There was also another odor in the little puffs of wind that flickered in, and far off where the arch of indigo dropped to the dusky earth, wavy lines of crimson moved along the horizon. It was then the season when fires that are lighted by means which no man knows creep up and down the waste of grass, until they put on speed and roll in a surf of flame before a sudden breeze. Still, nobody was anxious about them, for the guarding furrows that would oppose a space of dusty soil to the march of the flame had been plowed round every homestead at Silverdale.

Maud Barrington was at the piano and her voice was good, while Winston, who had known what it is to toil from red dawn to sunset without hope of more than daily food, found the simple song she had chosen chime with his mood. "All day long the reapers."

A faint staccato drumming that rose from the silent prairie throbbled thru the final chords of it, and when the music ceased, swelled into the gallop of a horse. It seemed in some curious fashion portentous, and when there was a rattle and jingle outside other eyes than Winston's were turned towards the door. It swung open presently and Dane came in. There was quiet elation and some diffidence in his bronzed face as he turned to Colonel Barrington.

"I could not get away earlier from the settlement, sir, but I have great news," he said. "They have awoke to the fact that stocks are getting low in the old country. Wheat moved up at Winnipeg, and there was almost a rush to buy yesterday."

There was a sudden silence, for among those present were men who remembered the acres of good soil they had not plowed, but a little grim smile crept into their leader's face.

"It is," he said quietly, "too late for most of us. Still, we will not grudge you your good fortune, Dane. You and a few of the others owe it to Courthorne."

Every eye was on the speaker, for it had become known among his neighbors that he had sold for a fall; but Barrington could lose gracefully. Then both his niece and Dane looked at Winston with a question in their eyes.

"Yes," he said very quietly, "it is the turning of the tide."

He crossed over to Barrington, who

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"Yes," he said very quietly, "it is the turning of the tide."

He crossed over to Barrington, who

would not what you are doing now cover a great deal in the past?"

Winston smiled dryly. "It is the present that is difficult," he said. "Can a man be pardoned and retain the offense?"

He saw the faint bewilderment in the girl's face give place to the resentment of frankness unreturned, and with a little shake of his shoulders shrank into himself. Maud Barrington, who understood it, once more put on the becoming reticence of Silverdale.

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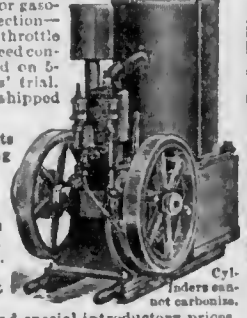
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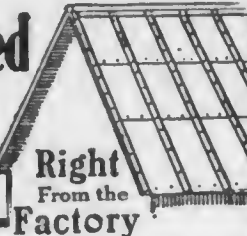
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Forging.—We have a young driving horse that strikes the front toe with hind shoe; also the bottom of front shoe. Can this peculiarity in gait be overcome, or had I better sell him?—B. T. S., Hookstown, Pa.—Horseshoers very often shorten the hind foot too much and apply too much weight to overcome this difficulty. Let the hind foot grow out long, apply shoe level and put toe calk well forward and always use light shoes. In front, give him rolling motion and add a little weight. The principle to follow is to facilitate and quicken action in front, while it should be rather retarded behind.

Wounded Felloek.—I have a horse that lacerated fetlock. I have applied boracic acid ointment, prescribed by local vet, but I would like to have you prescribe a healing remedy.—I. C., Hightstown, N. J.—Apply 1 part iodoform and 10 parts boracic acid to wound daily and cover sore slightly with ointment and bandage. I am not familiar with the formula of liniment you inquire about.

Chronic Fistula of Withers—Worms.—I have a 6-year-old mare th. has been troubled with fistula of withers for the past 6 months. I would like to know the best treatment. Her general health is good and she is not lame. Have another 12-year-old mare that is troubled with worms. She is thin, but has a good appetite. I would like to have a formula for condition powder.—W. T. H., Tarrington, Md.—In the treatment of fistula, it is usually necessary to do some surgical work; therefore, I advise you to have her treated by a veterinarian; or, apply 1 part iodoform and 4 parts boracic acid, once a day. This medicine should be put to bottom of cavity, and give her a dessert spoonful Fowler's solution at a dose, twice a day. Mix together equal parts powdered sulphate of iron, ground gentian, ground ginger, ground nux vomica and cayenne. Give a tablespoonful at a dose, 2 or 3 times a day.

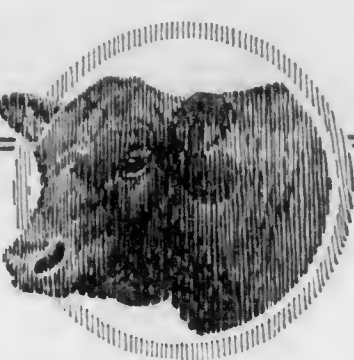
Ringworm.—Two of my yearling steers have sores on neck and shoulders, about the size of a 50-cent piece. I would like to know what it is and if they can be cured. They show no symptoms of sickness so far as I can tell, but they rub themselves.—H. J. D., Jamestown, N. Y.—I am quite sure your cattle suffer from ringworm. Paint the sores once a day with tincture iodine and they will soon get well. After the itching ceases, apply 1 part oxide of zinc and 4 parts vasoline daily.

Bruised Knee.—I have a cow with soft painless bunch on knee. I believe it was caused by lying down on knees to reach food. She stands on cement floor and I have seen the cows struggle to reach feed that had been thrown out of feed trough, but am not positive that it was caused in this way.—W. K., Meadville, Pa.—I believe you are right, for I treat many cows that injure their knees in the manner you mention. Put plenty bedding under her knees and apply equal parts tincture iodine and camphorated oil to bunch, 3 times a week.

Rheumatism.—I have 3 pigs, 6 months old. Two of them have been lame in fore quarters for some time. These pigs are kept on plank—or, I have scoured their fore legs with soap and water and I have fed them wheat flour and white middlings, equal parts, mixed with cold water, 3 times a day.—J. C. G., Meadville, Pa.—Feed your pigs some oats and oil meal, and if you have roots, give them some daily. Also give each pig 10 grains of sodium salicylate at a dose in feed, 3 times a day.

Parasitic Condition of Mouth.—I have several cattle afflicted with worms in their tongue. They do not eat well and are losing flesh.—A. P. J., Atlantic City, N. J.—Dissolve 1 oz. bicarbonate of soda in a pint of water and wash out mouth, 3 times a day, and give your cattle each a teaspoonful of powdered sulphate iron and a tablespoonful of salt at a dose in feed, 3 times a day.

Your Grandfather Read It
Your Father Read It
Are YOU Reading It?



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